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Part II

Department of Transportation

Federal Aviation Administration

General Operating and Flight Rules; Reorganization and Realignment

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 1, 21, 43, 45, 47, 61, 63, 65, 91, 93, 99, 121, 123, 125, 127, 133, 135, 137, and 141

[Docket No. 18334; Notice No. 79-2A]

Revision and Realignment of General Operating and Flight Rules

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This notice proposes to reorganize and realign the general operating and flight rules to make them more understandable and easier to use. The present regulations reflect the many changes that have occurred in aviation since the first set of aviation regulations was promulgated almost 50 years ago. This proposal would reorganize the subparts, organize existing material into several new subparts, and utilize an improved numbering system to make future changes easier. Other improvements would be made by deleting redundancies, obsolete compliance dates, and making other minor changes. This proposal was primarily the result of a petition filed by the Aircraft Owners and Pilots Association on August 9, 1978, which was later withdrawn. Additionally, this proposal is part of the President's regulatory reform program to simplify regulations. This proposal does not contain any substantive regulatory changes.

DATE: Comments must be received on or before December 9, 1981.

ADDRESS: Send comments on the proposal in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 18334, 800 Independence Avenue, SW., Washington, D.C. 20591. Comments must be marked: Docket No. 18334. Comments may be inspected at Room 916 between 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Fred Laird, General Aviation and Commercial Division (AFO-800), Office of Flight Operations, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591; telephone (202) 426-8150 or L. Jack Overman, Airspace and Traffic Rules Division (AAT-200), Air Traffic Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591; telephone: (202) 426-8783.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, or economic impacts that might result from adoption of the proposals contained in this notice are invited. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address above. All communications received on or before the closing date for comments will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this notice may be changed in the light of comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket. Commenters wishing to have the FAA acknowledge receipt of their comments submitted in response to this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 18334." The postcard will be dated, time stamped, and returned to the commenter.

Availability of NPRM

Any person may obtain a copy of this notice of proposed rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-430, 800 Independence Avenue, SW., Washington, D.C. 20591, or by calling (202) 426-8058. Communications must identify the docket number of this NPRM. Persons interested in being placed on a mailing list for future NPRM's should also request a copy of Advisory Circular 11-2 which describes the application procedures.

Background

On August 9, 1978, the Aircraft Owners and Pilots Association (AOPA) petitioned the Federal Aviation Administration (FAA) to revise Part 91 of the Federal Aviation Regulations (14 CFR Part 91) to make the regulations simpler and more comprehensible. In response to this petition, on January 11, 1979, the FAA issued an Advanced Notice of Proposed Rulemaking (ANPRM) No. 79-2 (44 FR 4572; January 22, 1979) consisting of a verbatim publication of AOPA's proposal.

The FAA received 106 comments in response to this ANPRM. An overwhelming majority of the commenters support the intent of the proposal to reorganize Part 91. This includes such groups as the National Transportation Safety Board, Department of Navy, six state transportation departments, the General Aviation Manufacturers Association, several individual airlines, the Air Transport Association, the Air Line Pilots Association, Flight Safety International, and 80 individual commenters. However, there were numerous problem areas identified by the commenters relating to proposed changes which were considered substantive.

On November 18, 1980, the FAA formed a Part 91 Working Group to analyze further the AOPA proposals and comments received on the ANPRM. It was determined that certain technical and administrative problems existed and it was not feasible to undertake a substantive revision of Part 91 at that time. Subsequently, AOPA withdrew its petition. However, review of AOPA's proposal to reorganize and renumber Part 91 revealed that many of the changes had merit and could be implemented. The FAA Working Group concluded that the reorganization and renumbering of Part 91 would be the first step to improve the regulation and make it more understandable and easier to use.

The Need for Reorganization

FAR Part 91 is a regulation that involves aviation safety and prescribes the minimum standards for all classes of operators who operate within the aviation system. For several years many individuals, aviation organizations, and operators have claimed that Part 91 is unorganized and lacks continuity of subject material resulting in a document that is difficult to study and understand. The FAA agrees that a new simplified format is needed. This will provide better subject continuity and a regulatory document that is easier to read and understand.

Proposed Future Changes

This proposal is the initiation of the FAA's program to simplify Part 91 as part of the President's regulatory reform efforts to remove unnecessary burdens on the public. Therefore, this proposal is only the first step in a regulatory review of Part 91 consistent with the objective of Executive Order 12291. While this notice deals only with reorganization of Part 91, future rulemaking will concentrate on possible substantive

amendments to sections of this part to make them more understandable, reduce costs associated with them, eliminate unnecessary requirements, and otherwise improve on them. With this in mind, the FAA invites specific comments to help in identifying substantive areas to be reviewed and possibly be included in the future proposals concerning Part 91. It is the FAA's intention not to take final action concerning this reorganization until a notice proposing substantive changes has been issued and the comments submitted have been fully evaluated and final action is taken on that notice.

The Proposal

The FAA is proposing to amend Part 91 of the Federal Aviation Regulations to reorganize, realign, and renumber the rules under this part as follows:

1. By reorganizing and realigining the rules in Part 91 into 10 subparts as follows:

FAR Part 91: General Operating and Flight Rules

Subpart A General
Subpart B Flight Rules
General
Visual Flight Rules
Instrument Flight Rules
Subpart C Equipment, Instrument, and Certificate Requirements
Subpart D Special Flight Operations
Subpart E Maintenance, Preventive Maintenance, and Alterations
Subpart F Large and Turbine-Powered Multiengine Airplanes
Subpart G Additional Equipment and Operating Requirements for Large and Transport Category Aircraft
Subpart H Foreign Aircraft Operations and Operations of U.S.-Registered Civil Aircraft to Areas Outside of the Conterminous United States
Subpart I Operating Noise Limits
Subpart J Waivers

Explanation: The heading of Subparts A and B remain the same.

The heading of Subpart C would be changed to "Equipment, Instrument, and Certificate Requirements" to reflect the creation of a new subpart containing relevant material now found in Subparts A and B. This proposal groups material of general applicability under a more specific heading for easier reference by the user.

Subpart D would be changed to "Special Flight Operations." This is a new Subpart which prescribes regulations now found in Subparts A and B affecting operations of a special category not commonly performed. These operations include such items as acrobatic flight and parachuting. This porposal would group them under a descriptive heading for easier user reference.

Proposed Subpart E, "Maintenance, Preventive Mantenance, and Alterations," consists of regulations found in present Subpart C. This subpart would be moved from its present location in Subpart C to provide for the insertion of new Subpart C and D. This change should provide better subject continuity.

Proposed Subpart F, "Large and Turbine-Powered Multiengine Airplanes," would contain the headings and material now found in present Subpart D.

A new Subpart G entitled "Additional Equipment and Operating Requirements for Large and Transport Category Aircraft," would contain regulations now found in Subpart A concerning these subjects. This proposal would group similar items in a new subpart for easier reference.

Proposed Subpart H, "Foreign Aircraft Operations of U.S.-Registered Civil Aircraft to Areas Outside of the Conterminous United States," would contain regulations concerning foreign aircraft operations and U.S. aircraft operating to areas outside of the conterminous United States. These regulations are now found in Subparts A and B.

Proposed Subpart I, "Operating Noise Limits," would be added containing the provisions in Subpart E under that title and adding to regulations concerning noise now found in Subpart A.

A new Subpart J, "Waivers," would be added to identify regulations which are subject to waiver. This provides a comprehensive list of these regulations to assist users in determining which regulations are waiverable.

2. By renumbering and realigning the rules in Part 91 under the 10 proposed subparts with the sections in each subpart assigned odd numbers as follows:

Subpart A.—*General*

New	Old	
91.1	91.1(a)	Applicability.
91.3	91.3	Responsibility and authority of the pilot in command.
91.5	91.4	Pilot in command of aircraft requiring more than one required pilot.
91.7	91.29	Civil aircraft airworthiness.
91.9	91.31	Civil aircraft operating limitations and marking requirements.
91.11	91.8	Prohibition against interference with crewmembers.
91.13	91.9, 10	Careless or reckless operation.
91.15	91.13	Dropping objects.
91.17	91.11	Liquor and drugs.
91.19	91.12	Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.
91.21	91.19	Portable electronic devices.
91.23	91.54	Truth-in-leasing clause requirement in leases and conditional sales contracts.

Subpart A.—*General*—Continued

New	Old	
91.25	91.57	Aviation Safety Reporting Program: Prohibition against use of reports for enforcement purposes.
91.27-91.99	.....	Reserved.

Explanation: The proposed subpart consists of regulations contained in present Subpart A except for certain regulations which are moved to other subparts where they are more pertinent and provide better subject continuity. Certain editorial changes include references to new Part 125 where appropriate. Proposed § 91.1 consists of current § 91.1(a). Current § 91.1 (b) and (c) would be changed to § 91.703 and placed under proposed Subpart H since these sections pertain to the operation of civil aircraft of U.S. registry outside the United States. Present §§ 91.9 and 91.10 would be combined under a new § 91.11 since both pertain to careless and reckless operations. Section 91.53 is unnecessary and is deleted.

Present §§ 91.2, 91.5, 91.6, 91.7, 91.14, 91.21, 91.22, 91.23, 91.25, and 91.34 would be relocated under proposed Subpart B, "Flight Rules," since they pertain to flight rules or flight operations. Present §§ 91.24, 91.27, 91.30, 91.32, 91.33, 91.36, 91.51, and 91.52 would be relocated in proposed Subpart C, "Equipment, Instrument, and Certificate Requirements," since these regulations concern those subjects. Present §§ 91.15, 91.17, 91.18, 91.39, 91.40, 91.41, 91.42, and 91.59 concern special categories of operations and are relocated under proposed Subpart D, "Special Flight Operations." Present §§ 91.35, 91.37, 91.45, 91.47, 91.49, 91.50, and 91.58 relate to certain equipment and operating requirements for specified aircraft and operators and are moved to proposed Subpart G which concerns that subject. Present §§ 91.1 (b) and (c), 91.20, 91.28, 91.38, and 91.43 are relocated under proposed Subpart H, "Foreign Aircraft Operations and Operations of U.S-Registered Civil Aircraft to Areas Outside of the Conterminous United States," since these rules are relevant to this subpart. Present §§ 91.55 and 91.56 concern noise and are moved to proposed Subpart I, "Operating Noise Limits."

Subpart B.—*Flight Rules, General*

New	Old	
91.101	91.51	Applicability.
91.103	91.5	Preflight action.
91.105	91.7	Flight crewmembers at stations.
91.107	91.14	Use of safety belts.
91.109	91.21	Flight instruction; Simulated instrument flight and certain flight tests.

Subpart B.—*Flight Rules, General*—Continued

New	Old	
91.111	91.65	Operating near other aircraft.
91.113	91.67	Right-of-way rules: Except water operations.
91.115	91.69	Right-of-way rules: Water operations.
91.117	91.70	Aircraft speed.
91.119	91.79	Minimum safe altitudes: General.
91.121	91.81	Altimeter settings.
91.123	91.75	Compliance with ATC clearances and instructions.
91.125	91.77	ATC light signals.
91.127	91.85	Operating on or in the vicinity of an airport: General rules.
91.129	91.89	Operation at airports without control towers.
91.131	91.87	Operation at airports with operating control towers.
91.133	91.90	Terminal control areas.
91.135	91.95	Restricted and prohibited areas.
91.137	91.97	Positive control areas and route segments.
91.139	91.91	Temporary flight restrictions.
91.141	91.100	Emergency air traffic rules.
91.143	91.104	Flight restrictions in the proximity of the Presidential and other parties.
91.145	91.102	Flight limitation in the proximity of space flight recovery operations.
91.147-91.149	.....	Reserved.
		Visual Flight Rules
91.151	91.22	Fuel requirements for flight under VFR.
91.153	91.88	VFR flight plan: Information required.
91.155	91.105	Basic VFR weather minimums.
91.157	91.107	Special VFR weather minimums.
91.159	91.109	VFR cruising altitude or flight level.
91.161-91.165	.....	Reserved.
		Instrument Flight Rules
91.167	91.23	Fuel requirements for flight in IFR conditions.
91.169	91.83	IFR flight plan: Information required.
91.171	91.25	VOR equipment check for IFR operations.
91.173	91.115	ATC clearance and flight plan required.
91.175	91.116	Takeoff and landing under IFR.
91.177	91.119	Minimum altitudes for IFR operations.
91.179	91.121	IFR cruising altitude or flight level.
91.181	91.123	Course to be flown.
91.183	91.125	IFR radio communications.
91.185	91.127	IFR operations: Two-way radio communication failure.
91.187	91.129	Operation under IFR in controlled airspace: Malfunction reports.
91.189	91.6	Category II and III operations: General operating rules.
91.191	91.34	Category II manual.
91.193	91.2	Certificate of authorization for certain Category II operations.
91.195-91.199	.....	Reserved.

Explanation: The majority of the regulations in this proposed subpart are contained in present Subpart B. This proposed subpart has been reorganized to enable pilots using it to locate more easily those regulations that are applicable to the type of operation that they desire to perform. As already noted, 10 regulations would be relocated in this subpart from present Subpart A since they pertain to flight rules or flight operations.

Additionally, seven regulations currently found in Subpart B would be moved to new subparts. Present § 91.73 would be moved to proposed Subpart C, "Equipment, Instrument, and Certificate Requirements," since it involves aircraft lighting requirements. Present §§ 91.71 and 91.93 would be relocated under proposed Subpart D, "Special Flight Operations," since they concern this special category of operations. Sections 91.84, 91.101, and 91.103 would be relocated under proposed Subpart H, "Foreign Aircraft Operations and Operations of U.S.-Registered Aircraft to Areas Outside of the Conterminous United States," since they pertain to this subject. Section 91.63 would be moved to Subpart J, "Waivers," since this section pertains to the applicability of waivers. Present §§ 91.99 and 91.117 have been deleted and removed as unnecessary.

Subpart C.—*Equipment, Instrument, and Certificate Requirements*

New	Old	
91.201	None	Applicability.
91.209	91.27	Civil aircraft: Certifications required.
91.205	91.33	Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.
91.207	91.52	Emergency locator transmitters.
91.209	91.73	Aircraft lights.
91.211	91.32	Supplemental oxygen.
91.213	91.30	Inoperable instruments and equipment for multiengine aircraft.
91.215	91.24	ATC transponder and altitude reporting equipment and use.
91.217	91.36	Data correspondence between automatically reported pressure altitude data and the pilot's altitude reference.
91.219	91.51	Altitude alerting system or device: Turbojet-powered civil airplanes.
91.221-91.299	.....	Reserved.

Explanation: This would be a new subpart in Part 91. All of the rules in this subpart were moved from present Subpart A with the exception of § 91.73, "Aircraft lights," which is currently in Subpart B. These regulations contain general requirements for equipment, instrument, and certificates and are grouped together for subject commonality. Regulations found in present Subppart C would be relocated to proposed Subpart E under the same heading.

Subpart D.—*Special Flight Operations*

New	Old	
91.301	None	Applicability.
91.303	91.71	Acrobatic flight.
91.305	91.93	Flight test areas.
91.307	91.15	Parachutes and parachuting.
91.309	91.17	Towing: Gliders.
91.311	91.18	Towing: Other than under § 91.309.
91.313	91.39	Restricted category civil aircraft: Operating limitations.
91.315	91.40	Limited category civil aircraft: Operating limitations.
91.317	91.41	Provisionally certificated civil aircraft: Operating limitations.
91.319	91.42	Aircraft having experimental certificates: Operating limitations.
91.321	91.59	Carriage of candidates in Federal elections.
91.323-91.339	.....	Reserved.

Explanation: This proposed subpart would contain regulations concerning special flight operations. The regulations in this subpart are taken from present Subpart A (§§ 91.15, 91.17, 91.18, 91.39, 91.40, 91.41, 91.42, 91.59) and Subpart B (§§ 91.71 and 91.93). These regulations are moved to this subpart to group regulations together of a unique character. Regulations found in present Subpart D would be relocated to proposed Subpart F.

Subpart E.—*Maintenance, Preventive Maintenance, and Alterations*

New	Old	
91.401	91.161	Applicability.
91.403	91.163	General.
91.405	91.165	Maintenance required.
91.407	91.167	Carrying persons other than crewmembers after repairs or alterations.
91.409	91.169	Inspections.
91.411	91.171	Progressive inspection.
91.413	91.170	Altimeter system tests and inspections.
91.415	91.177	ATC transponder tests and inspections.
91.417	91.173	Maintenance records.
91.419	91.174	Transfer of maintenance records.
91.421	91.175	Rebuilt engine mainetenance records.
91.423-91.499	.....	Reserved.

Explanation: This proposed subpart includes all the rules of present Subpart C (current §§ 91.161 through 91.177). The regulations are arranged into a more logical order by grouping similar sections together. All regulations found in present Subpart E would be moved to proposed Subpart I.

Subpart F.—*Large and Turbine-Powered Multiengine Airplanes*

New	Old	
91.501	91.181	Applicability.
91.503	91.183	Flying equipment and operating information.
91.505	91.185	Familiarity with operating limitations and emergency equipment.
91.507	91.187	Equipment requirements: Over-the-top or night VFR operations.
91.509	91.189	Survival equipment for overwater operations.
91.511	91.191	Radio equipment for overwater operations.
91.513	91.193	Emergency equipment.
91.515	91.195	Flight attitude rules.
91.517	91.197	Smoking and safety belt signs.
91.519	91.199	Passenger briefing.
91.521	91.200	Shoulder harness.
91.523	91.201	Carry-on baggage.
91.525	91.203	Carriage of cargo.
91.527	91.205	Transport category airplane weight limitations.
91.529	91.209	Operating in icing conditions.

Subpart F.—*Large and Turbine-Powered Multiengine Airplanes*—Continued

New	Old	
91.531	91.211	Flight engineer requirements.
91.533	91.213	Second-in-command requirements.
91.535	91.215	Flight attendant requirements.
91.537	91.217	Inspection program.
91.539	91.219	Availability of inspection program.
91.541-91-599		Reserved.

Explanation: This proposed subpart would consist of all regulations found in present Subpart D.

Subpart G.—*Additional Equipment and Operating Requirements for Large and Transport Category Aircraft*

New	Old	
91.601	None	Applicability.
91.603	91.49	Aural speed warning device.
91.605	91.37	Transport category civil airplace weight limitations.
91.607	91.50	Transport category airplanes—Pilot heat indication systems.
91.609	91.47	Emergency exits for airplanes carrying passengers for hire.
91.611	91.35	Flight recorders and cockpit voice recorders.
91.613	91.45	Authorization for ferry flight with one engine inoperative by air carriers and commercial operators of large aircraft.
91.615	91.58	Materials for compartment interiors.
91.617-91.699		Reserved.

Explanation: This proposed subpart would contain certain regulations found in present Subpart A which are grouped here because of their subject commonality.

Subpart H.—*Foreign Aircraft Operations and Operations of U.S.-Registered Civil Aircraft to Areas Outside of the Conterminous United States*

New	Old	
91.701	None	Applicability.
91.703	91.1	Operations of civil aircraft of U.S. registry outside of the United States.
91.705	91.29	Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace.
91.707	91.38	Increased maximum certificated weights for certain airplanes operated in Alaska.
91.709	91.84	Flights between Mexico or Canada and the United States.
91.711	91.101	Operations to Cuba.
91.713	91.43	Special rules for foreign civil aircraft.
91.715	91.103	Operation of civil aircraft of Cuban registry.
91.717	91.28	Special flight authorizations for foreign civil aircraft.
91.719-91.799		Reserved.

Explanation: This new subpart contains regulations concerning operations of foreign aircraft as well as operations of U.S.-registered aircraft to areas outside of the conterminous United States. All regulations in this subpart are found in present Subpart A (§§ 91.1(b) and (c), 91.20, 91.28, 91.38, and 91.43) and present Subpart B (§§ 91.84, 91.101, and 91.103). These rules are grouped together for easier reference.

Subpart I.—*Operating Noise Limits*

New	Old	
91.801	91.301	Applicability: Relation to Part 36.
91.803	91.302	Part 125 operators: Designation of applicable regulations.
91.805	91.303	Final compliance: Subsonic airplanes.
91.807	91.305	Phased compliance under Parts 121, 125, and 135: Subsonic airplanes.
91.809	91.306	Replacement airplanes.
91.811	91.307	Service to small communities exemption: Tow-engine, subsonic airplanes.
91.813	91.308	Compliance plans and status: U.S. operators of subsonic airplanes.
91.815	91.56	Agricultural and fire-fighting airplanes: Noise operating limitations.
91.817	91.55	Civil aircraft sonic boom.
91.819	91.309	Civil supersonic airplanes that do not comply with Part 36.
91.821	91.311	Civil supersonic airplanes: Noise limits.
91.823-91.899		Reserved.

Explanation: This proposed subpart would contain all regulations found in present Subpart E (§§ 91.301 through 91.311) and two regulations found in present Subpart A (§§ 91.55 and 91.56). These regulations concern noise and are combined in this subpart which concerns that subject.

Subpart J.—*Waivers*

New	Old	
91.901	None	Applicability.
91.903	91.63	Policy and procedures.
91.905	None	List of rules subject to waiver.

Explanation: This new subpart would list all of the regulations subject to waiver in one subpart to provide an easy method of identifying which rules are waiverable.

Appendix A. Category II Operations: Manual, Instruments, Equipment, and Maintenance

Appendix B. Authorizations to Exceed Mach 1 (§ 91.817)

Appendix C. Operations in the North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace

Explanation: Appendices A, B, and C remain the same except for editorial changes to reflect the renumbering of Part 91.

3. By deleting §§ 91.53, 91.99, 91.117, and 91.207.

Explanation: Sections 91.53, 91.99, 91.117, and 91.207 consist of rules that were deleted and marked reserved and may be deleted as unnecessary.

4. By making additional editorial changes to Title 14, Chapter I, Federal Aviation Regulations (Parts 1–199), as follows:

Rule: Part 1—Definitions and Abbreviations

§ 1.1 "Operate", Reference to 91.10, change to 91.13

Rule: Part 21—Certification Procedures for Products and Parts

§ 21.81(A) Reference to 91.41, change to 91.317

§ 21.83(a) & (b) Reference to 91.41, change to 91.317

§ 21.85(f) Reference to 91.41, change to 91.317

§ 21.221(a)(2) & (e) Reference to 91.41, change to 91.317

§ 21.223(a)(2) & (f) Reference to 91.41, change to 91.317

§ 21.225(a)(2) & (e) Reference to 91.41, change to 91.317

Rule: Part 43—Maintenance, Preventive Maintenance, Rebuilding, and Alteration

§ 43.5(a)(4) Reference to 91.31, change to 91.9

§ 43.9(a)(5) Reference to 91.217, change to 91.537

§ 43.13(d) Reference to 91.217, change to 91.537

§ 43.13(d)(1) Reference to 91.217(b)(1), change to 91.537(b)(1)

§ 43.13(d)(2) Reference to 91.217(b)(2), change to 91.537(b)(2)

§ 43.13(d)(3) Reference to 91.217(b)(3), change to 91.537(b)(3)

§ 43.13(d)(4) Reference to 91.217(b)(4), change to 91.537(b)(4)

§ 43.13(d)(5) Reference to 91.217(b)(5), change to 91.537(b)(5)

Appendix E Reference to 91.170, change to 91.413

Appendix F Reference to 91.177, change to 91.415

Rule: Part 45—Identification and Registration Marking

§ 45.22(a)(3)(ii) Reference to 91.83, change to 91.153 and 91.169

Rule: Part 47—Aircraft Registration

§ 47.9(f)(1)(i) Reference to 91.173(a)(2)(i), change to 91.417(a)(2)(i)

Rule: Part 61—Certification: Pilots and Flight Instructors

§ 61.15(b) Reference to 91.12(a), change to 91.19(a)

§ 61.118(d)(5) Reference to 91.169, change to 91.409

§ 61.153(a) Reference to 91.1 thru 91.9, change to 91.1, 91.3, 91.5, 91.11, 91.13.

Rule: Part 63—Certification: Flight Crewmembers Other than Pilots

§ 63.12(b) Reference to 91.12(a), change to 91.19(a)

Rule: Part 65—Certification: Airman Other than Flight Crewmembers

§ 65.12(b) Reference to 91.12(a), change to 91.19(a)

Rule: Part 93—Special Air Traffic Rules and Airport Traffic Patterns

§ 93.111 Reference to 91.107, change to 91.157

§ 93.113 Reference to 91.107, change to 91.157

Rule: Part 99—Security Control of Air Traffic

§ 99.11(b)(1) Reference to 91.83, change to 91.169
§ 99.11(b)(2) Reference to 91.83(a)(1) through (7), change to 91.153(a)(1) through (7)
§ 99.13(b)(1) Reference to 91.83, change to 91.169
§ 99.13(b)(2) Reference to 91.83(a)(1) through (7), change to 91.153(a)(1) through (7)
§ 99.17(a) Reference to 91.125, change to 91.183
§ 99.25(a)(1) Reference to 91.125, change to 91.183
§ 99.27(a) Reference to 91.75, change to 91.123
§ 99.31 Reference to 91.127, change to 91.185

Rule: Part 121—Certification and Operations: Domestic, Flag, and Supplemental Air Carriers and Commmercial Operators of Large Aircraft

§ 121.15 Reference to 91.12(a), change to 91.19(a)
§ 121.207 Reference to 91.41, change to 91.317
§ 121.579(b)(1) Reference to 91.105, change to 91.155
§ 121.579(b)(2) Reference to 91.105, change to 91.155
§ 121.649(c) Reference to 91.105, change to 91.155
§ 121.657(a) Reference to 91.79, change to 91.119
§ 121.667(b) Reference to 91.83, change to 91.153 and 91.169

Rule: Part 123—Certification and Operations: Air Travel Clubs Using Large Airplanes

§ 123.20 Reference to 91.12(a), change to 91.19(a)

Rule: Part 125—Certification and Operations: Airplanes Having a Seating Capacity of 20 or More Passengers or a Maximum Payload Capacity of 6,000 Pounds or More

§ 125.23(b) Reference to 91.1(c), change to 91.703(b)
§ 125.39 Reference to 91.12(a), change to 91.19(a)
§ 125.329(c) Reference to 91.105, change to 91.155

Rule: Part 127—Certification and Operations of Scheduled Air Carriers with Helicopters

§ 127.22 Reference to 91.12(a), change to 91.19(a)
§ 127.85 Reference to 91.41, change to 91.317

Rule: Part 133—Rotocraft External-Load Operations

§ 133.14 Reference to 91.12(a), change to 91.19(a)

Rule: Part 135—Air Taxi Operators and Commercial Operators

§ 135.3(b) Reference to 91.1(c), change to 91.703(b)
§ 135.41 Reference to 91.12(a), change to 91.19(a)
§ 135.71 Reference to 91.169, change to 91.409
§ 135.93(c) Reference to 91.105, change to 91.155
§ 135.211(a)(2) Reference to 91.116(f), change to 91.175(f)

Rule: Part 137—Agricultural Aircraft Operations

§ 137.23 Reference to 91.12(a), change to 91.19(a)
§ 137.43(c) Reference to 91.107(e), change to 91.157(e)
§ 137.53(c)(ii) Reference to 91.217, change to 91.537

Rule: Part 141—Pilot Schools

§ 141.18 Reference to 91.12(a), change to 91.19(a)
§ 141.41(a)(1)(iii) Reference to 91.33, change to 91.205
§ 141.41(a)(2)(iii) Reference to 91.33, change to 91.205

Explanation: Due to the realignment of Part 91 in this amendment, references to specific rule numbers in other parts of this chapter would be revised to reflect the appropriate rule.

Regulatory Evaluation

The FAA conducted a regulatory evaluation which is included in the regulatory docket for this action. Three major groups of organizations were contacted in this study to determine what programs or areas might be impacted economically as a result of proposed Part 91: industry, military, and government. FAA found that the overwhelming response of the organizations contacted was that, in a general sense, the aggregate of costs to be borne at the organizational level would be insignificant to minor. Further, FAA found that each element or area of potential economic impact may incur types of costs that have not been defined. Because of the lack of directly relevant operational and cost data, the FAA does not have cost estimates for most of the undefined or defined potential impact areas. Those organizations contacted for the purposes of this study also were not able to define what the dollar amounts of impacted programs might be.

A total of 11 contacts with industry organizations were made by telephone. Types of companies or concerns represented by the organizations contacted were flight school operators and instructors; textbook publishers; helicopter manufacturers and operators; trunk, local service, and commuter airlines; aircraft manufacturers and major contractors; aerospace companies; corporations with business jets; private pilots; and manufacturers of aviation-related products. The vast majority of industry organizations contacted felt that a reorganization and realignment of Part 91 would have an insignificant impact on their constituents and associated programs. It was the opinion of most of these organizations that minor costs would be incurred for revising training programs, examinations, operational and maintenance manuals, etc., which reference specific sections of Part 91. Further, several of these organizations support the intent to revise Part 91 without reservation. The FAA invites comments from industry and other qualified sources on the types of programs that might be impacted as a result of the NPRM, on the level of cost impact of programs, and on other elements of impact.

Contacts were also made with the four military organizations: Air Force, Navy, Army, and Marine Corps. The areas commonly identified as having potential economic impact were in training programs and manuals which cite specific sections of the FAR. The aggregate response of these organizations, however, was that there would be little, if any, cost incurred as a result of proposed Part 91. The FAA invites comment from qualified sources on specific types of military programs that might be impacted economically.

The majority of the total cost burden, although it does not appear significant, is most likely to fall upon the FAA. This would include the material, printing, and distribution costs of revised FAR, agency orders, and agency directives, which are estimated not to exceed $500,000; the costs to revise handbooks and manuals; and software and programming costs.

FAA invites comments on the types of programs that may be impacted and/or the magnitude of costs that would be incurred as a result of this proposal.

Environmental Impact

The FAA has prepared an environmental assessment which addresses the proposal to realign Part 91 and has found that it is not a major Federal action. It concludes that the impacts would not significantly affect the quality of the human environment.

Benefits Resulting From Proposed Part 91

Proposed Part 91 is expected to provide several benefits to the general public, including: commonality and a more logical progression of the rules, reduced complexity, simplification through reorganization, renumbering to provide easier inclusion of future changes, and deletion of redundancies and obsolete compliance date. These changes will provide a regulation that is easier to read and understand. Additionally, it will reduce the amount of study time for persons who are responsible for having to know the regulation and are required to comply with its minimum safety standards.

Cross Reference

To identify where present regulations are proposed to be relocated, the following cross-reference is list provided:

Old	New
91.1	91.1 and 91.703.
91.2	91.193.
91.3	91.3.
91.4	91.5.
91.5	91.103.
91.6	91.189.
91.7	91.105.
91.8	91.11.
91.9	91.13.
91.10	91.13.
91.11	91.17.
91.12	91.19.
91.13	91.15.
91.14	91.107.
91.15	91.307.
91.17	91.309.
91.18	91.311.
91.19	91.21.
91.20	91.705.
91.21	91.109.
91.22	91.151.
91.23	91.167.
91.24	91.215.
91.25	91.171.
91.27	91.203.
91.28	91.717.
91.29	91.7.
91.30	91.213.
91.31	91.9.
91.32	91.211.
91.33	91.205.
91.34	91.191.
91.35	91.611.
91.36	91.217.
91.37	91.605.
91.38	91.707.
91.39	91.313.
91.40	91.315.
91.41	91.317.
91.42	91.319.
91.43	91.713.
91.45	91.613.
91.47	91.609.
91.49	91.603.
91.50	91.607.
91.51	91.219.
91.52	91.207.
91.53	Deleted.
91.54	91.23.
91.55	91.817.
91.56	91.815.
91.57	91.25.
91.58	91.615.
91.59	91.321.
91.61	91.101.
91.63	91.903.
91.65	91.111.
91.67	91.113.
91.69	91.115.
91.70	91.117.
91.71	91.303.
91.73	91.209.
91.75	91.123.
91.77	91.125.
91.79	91.119.
91.81	91.121.
91.83	91.153 and 91.169.
91.84	91.709.
91.85	91.127.
91.87	91.131.
91.89	91.129.
91.90	91.133.
91.91	91.139.
91.93	91.305.
91.95	91.135.
91.97	91.137.
91.99	Deleted.
91.100	91.141.
91.101	91.711.
91.102	91.145.
91.103	91.715.
91.104	91.143.
91.105	91.155.
91.107	91.157.
91.109	91.159.
91.115	91.173.
91.116	91.175.
91.117	Deleted.
91.119	91.177.
91.121	91.179.
91.123	91.181.
91.125	91.183.
91.127	91.185.
91.129	91.187.
91.161	91.401.
91.163	91.403.
91.165	91.405.
91.167	91.407.
91.169	91.409.
91.170	91.413.
91.171	91.411.
91.173	91.417.
91.174	91.419.
91.175	91.421.
91.177	91.415.
91.181	91.501.
91.183	91.503.
91.185	91.505.
91.187	91.507.
91.189	91.509.
91.191	91.511.
91.193	91.513.
91.195	91.515.
91.197	91.517.
91.199	91.519.
91.200	91.521.
91.201	91.523.
91.203	91.525.
91.205	91.527.
91.207	Deleted.
91.209	91.529.
91.211	91.531.
91.213	91.533.
91.215	91.535.
91.217	91.537.
91.219	91.539.
91.301	91.801.
91.302	91.803.
91.303	91.805.
91.305	91.807.
91.306	91.809.
91.307	91.811.
91.308	91.813.
91.309	91.819.
91.311	91.821.

The Proposed Amendments

Accordingly, the Federal Aviation Administration proposes to amend Part 91 of the Federal Aviation Regulations (14 CFR Part 91) in its entirety, and amend references to specific rules of Part 91 in other parts (14 CFR Parts 1–199) as follows:

1. By revising Part 91 in its entirely as follows:

PART 91—GENERAL OPERATING AND FLIGHT RULES

Special Federal Aviation Regulations

SFAR–21
SFAR–27
SFAR–29–3
SFAR–37
SFAR–42

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Sec.
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91.3 Responsibility and authority of the pilot in command.
91.5 Pilot in command of aircraft requiring more than one required pilot.
91.7 Civil aircraft airworthiness.
91.9 Civil aircraft operating limitations and marking requirements.
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APPENDIX C. Operations in the North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace

Authority: Sections 307, 313(a), 402, 601, 602, 603, 902, 1110, and 1202 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354(a), 1372, 1421, 1422, 1443, 1472, 1510, and 1522); Section 6(c), Department of Transportation Act (49 U.S.C. 1655(c),).

Subpart A—General

§ 91.1 Applicability.

Except as provided in § 91.703, this part prescribes rules governing the operation of aircraft (other than moored ballons, kites, unmanned rockets, and unmanned free ballons) within the United States.

§ 91.3 Responsibility and authority of the pilot in command.

(a) The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.

(b) In an emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency.

(c) Each pilot in command who deviates from a rule under paragraph (b) of this section shall, upon the request of the Administrator, send a written report of that deviation to the Administrator.

§ 91.5 Pilot in command of aircraft requiring more than one required pilot.

No person may operate an aircraft that is type certificated for more than one required pilot flight crewmember unless the pilot flightcrew consists of a pilot in command who meets the requirements of § 61.58 of this chapter.

§ 91.7 Civil aircraft airworthiness.

(a) No person may operate a civil aircraft unless it is in an airworthy condition.

(b) The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. He shall discontinue the flight when unairworthy mechanical or structural conditions occur.

§ 91.9 Civil aircraft operating limitations and marking requirements.

(a) Except as provided in paragraph (d) of this section, no person may operate a civil aircraft without compliance with the operating limitations for that aircraft prescribed by the certificating authority of the country of registry.

(b) No person may operate a U.S.-registered civil aircraft:

(1) For which an airplane or rotorcraft flight manual is required by § 21.5 unless there is available in the aircraft a current, approved airplane or rotorcraft flight manual or the manual provided for in § 121.141(b); and

(2) For which an airplane or rotorcraft flight manual is not required by § 21.5, unless there is available in the aircraft a current approved airplane or rotorcraft flight manual, approved manual material, markings, and placards, or any combination thereof.

(c) No person may operate a U.S.-registered civil aircraft unless that aircraft is identified in accordance with Part 45 of this chapter.

(d) Any person taking off or landing a helicopter certificated under Part 29 of this chapter at a heliport constructed over water may make such momentary flight as is necessary: for takeoff or landing through the prohibited range of the limiting height-speed envelope established for that helicopter if that flight through the prohibited range takes place over water on which a safe ditching can be accomplished and if the helicopter is amphibious or is equipped with floats or other emergency flotation gear adequate to accomplish a safe emergency ditching on open water.

(e) The airplane or rotorcraft flight manual, or manual material, markings, and placards required by paragraph (b) of this section, must contain each operating limitation prescribed for that aircraft by the Administrator, including the following:

(1) Powerplant (e.g., r.p.m., manifold pressure, gas temperature, etc.).

(2) Airspeeds (e.g., normal operating speed, flaps extended speed, etc.).

(3) Aircraft weight, center of gravity, and weight distribution, including the composition of the useful load in those combinations and ranges intended to ensure that the weight and center of gravity position will remain within approved limits (e.g., combinations and ranges of crew, oil, fuel, and baggage).

(4) Minimum flightcrew.

(5) Kinds of operations.

(6) Maximum operating altitude.

(7) Maneuvering flight load factors.

(8) Rotor speed (for rotorcraft).

(9) Limiting height-speed envelope (for rotorcraft).

§ 91.11 Prohibition against interference with crewmembers.

No person may assault, threaten, intimidate, or interfere with a crewmember in the performance of the crewmember's duties aboard an aircraft being operated.

§ 91.13 Careless or reckless operation.

(a) *Aircraft operations for the purpose of air navigation.* No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.

(b) *Aircraft operations other than for the purpose of air navigation.* No person may operate an aircraft other than for the purpose of air navigation, on any part of the surface of an airport used by aircraft for air commerce (including areas used by those aircraft for receiving or discharging persons or cargo), in a careless or reckless manner so as to endanger the life or property of another.

§ 91.15 Dropping objects.

No pilot in command of a civil aircraft may allow any object to be dropped from that aircraft in flight that creates a hazard to persons or property. However, this section does not prohibit the dropping of any object if reasonable precautions are taken to avoid injury or damage to persons or property.

§ 91.17 Liquor and drugs.

(a) No person may act as a crewmember of a civil aircraft:

(1) Within 8 hours after the consumption of any alcoholic beverage;

(2) While under the influence of alcohol; or

(3) While using any drug that affects his faculties in any way contrary to safety.

(b) Except in an emergency, no pilot of a civil aircraft may allow a person who is obviously under the influence of intoxicating liquors or drugs (except a medical patient under proper care) to be carried in that aircraft.

§ 91.19 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.

(a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft within the United States with knowledge that narcotic drugs, marihuana, and depressant or stimulant drugs or substances as defined in Federal or State statutes are carried in the aircraft.

(b) Paragraph (a) of this section does not apply to any carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances authorized by or under any Federal or State statute or by any Federal or State agency.

§ 91.21 Portable electronic devices.

(a) Except as provided in paragraph (b) of this section, no person may operate, nor may any operator or pilot in command of an aircraft allow the operation of, any portable electronic device on any of the following U.S.-registered civil aircraft:

(1) Aircraft operated by an air carrier or commercial operator; or

(2) Any other aircraft while it is operated under IFR.

(b) Paragraph (a) of this section does not apply to—

(1) Portable voice recorders;

(2) Hearing aids;

(3) Heart pacemakers;

(4) Electric shavers; or

(5) Any other portable electronic device that the operator of the aircraft has determined will not cause interference with the navigation or communication system of the aircraft on which it is to be used.

(c) In the case of an aircraft operated by an air carrier or commercial operator, the determination required by paragraph (b)(5) of this section shall be made by the air carrier or commercial operator of the aircraft on which the particular device is to be used. In the case of other aircraft, the determination may be made by the pilot in command or other operator of the aircraft.

§ 91.23 Truth-in-leasing clause requirement in leases and conditional sales contracts.

(a) Except as provided in paragraph (b) of this section, the parties to a lease or contract of conditional sale involving a U.S.-registered large civil aircraft and entered into after January 2, 1973, shall execute a written lease or contract and include therein a written truth-in-leasing clause as a concluding paragraph in large print, immediately preceding the space for the signature of the parties, which contains the following with respect to each such aircraft:

(1) Identification of the Federal Aviation Regulations under which the aircraft has been maintained and inspected during the 12 months

preceding the execution of the lease or contract of conditional sale, and certification by the parties thereto regarding the aircraft's status of compliance with applicable maintenance and inspection requirements in this part of the operation to be conducted under the lease or contract of conditional sale.

(2) The name and address (printed or types) and the signature of the person responsible for operational control of the aircraft under the lease or contract of conditional sale, and certification that each person understands that person's responsibilities for compliance with applicable Federal Aviation Regulations.

(3) A statement that an explanation of factors bearing on operational control and pertinent Federal Aviation Regulations can be obtained from the nearest FAA Flight Standards District Office, General Aviation District Office, or Air Carrier District Office.

(b) The requirements of paragraph (a) of this section do not apply—

(1) To a lease or contract of conditional sale when—

(i) The party to whom the aircraft is furnished is a foreign air carrier or certificate holder under Part 121, 123, 125, 127, 135, or 141 of this chapter; or

(ii) The party furnishing the aircraft is a foreign air carrier, certificate holder under Part 121, 123, 125, 127, or 141 of this chapter, or a certificate holder under Part 135 of this chapter having appropriate authority to engage in air taxi operations with large aircraft;

(2) To a contract of conditional sale, when the aircraft involved has not been registered anywhere prior to the execution of the contract, except as a new aircraft under a dealer's aircraft registration certificate issued in accordance with § 47.61 of this chapter.

(c) No person may operate a large civil aircraft of U.S. registry that is subject to a lease or contract of conditional sale to which paragraph (a) of this section applies, unless—

(1) The lessee or conditional buyer, or the registered owner if the lessee is not a citizen of the United States, has mailed a copy of the lease or contract that complies with the requirements of paragraph (a) of this section, within 24 hours of its execution, to the Flight Standards Technical Division, P.O. Box 25724, Oklahoma City, Oklahoma 73125;

(2) A copy of the lease or contract that complies with the requirements of paragraph (a) of this section is carried in the aircraft. The copy of the lease or contract shall be made available for review upon request by the Administrator; and

(3) The lessee or conditional buyer, or the registered owner if the lessee is not a citizen of the United States, has notified by telephone or in person, the FAA Flight Standards District Office, General Aviation District Office, Air Carrier District Office, or International Field Office nearest the airport where the flight will originate. Unless otherwise authorized by that office, the notification shall be given at least 48 hours prior to takeoff in the case of the first flight of that aircraft under that lease or contract and inform the FAA of—

(i) The location of the airport of departure;

(ii) The departure time; and

(iii) The registration number of the aircraft involved.

(d) The copy of the lease or contract furnished to the FAA under paragraph (c) of this section is commercial or financial information obtained from a person. It is, therefore, privileged and confidential and will not be made available by the FAA for public inspection or copying under 5 U.S.C. 552(b)(4) unless recorded with the FAA under Part 49 of this chapter.

(e) For the purpose of this section, a lease means any agreement by a person to furnish an aircraft to another person for compensation or hire, whether with or without flight crewmembers, other than an agreement for the sale of an aircraft and a contract of conditional sale under section 101 of the Federal Aviation Act of 1958. The person furnishing the aircraft is referred to as the lessor, and the person to whom it is furnished the lessee.

§ 91.25 Aviation safety reporting program: Prohibition against use of reports for enforcement purposes.

The Administrator of the FAA will not use reports submitted to the National Aeronautics and Space Administration under the Aviation Safety Reporting Program (or information derived therefrom) in any enforcement action, except information concerning criminal offenses or accidents which are wholly excluded from the program.

§ 91.27-91.99 Reserved.

Subpart B—Flight Rules

General

§ 91.101 Applicability.

This subpart prescribes flight rules governing the operation of aircraft within the United States.

§ 91.103 Preflight action.

Each pilot in command shall, before beginning a flight, familiarize himself with all available information concerning that flight. This information must include—

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which he has been advised by ATC;

(b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information:

(1) For civil aircraft for which an approved airplane or rotorcraft flight manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein; and

(2) For civil aircraft other than those specified in subparagraph (1) of this paragraph, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature.

§ 91.105 Flight crewmembers at stations.

(a) During takeoff and landing, and while en route, each required flight crewmember shall—

(1) Be at his station unless his absence is necessary in the performance of his duties in connection with the operation of the aircraft or in connection with his physiological needs; and

(2) Keep his seat belt fastened while at his station.

(b) Each required flight crewmember of a U.S.-registered civil aircraft shall, during takeoff and landing, keep the shoulder harness fastened while at his station. This paragraph does not apply if—

(1) The seat at the crewmember's station is not equipped with a shoulder harness; or

(2) The crewmember would be unable to perform his required duties with the shoulder harness fastened.

§ 91.107 Use of safety belts.

(a) No pilot may take off a U.S.-registered civil aircraft (except a free balloon that incorporates a basket or gondola and an airship) unless the pilot in command of that aircraft ensures that each person on board is briefed on how to fasten and unfasten that person's safety belt.

(b) No pilot may take off or land a U.S.-registered civil aircraft (except a free balloon that incorporates a basket or gondola and an airship) unless the pilot in command of that aircraft ensures that each person on board has been notified to fasten his safety belt.

(c) During the takeoff and landing of a U.S.-registered civil aircraft (except a free balloon that incorporates a basket or gondola and an airship) each person on board that aircraft must occupy a seat or berth with a safety belt properly secured about him. However, a person who has not reached his second birthday may be held by an adult who is occupying a seat or berth and a person on board for the purpose of engaging in sport parachuting may use the floor of the aircraft as a seat.

(d) This section does not apply to operations conducted under Part 121, 123, 125, 127, or 135 of this chapter. Paragraph (c) of this section does not apply to persons subject to § 91.105.

§ 91.109 Flight instruction: Simulated instrument flight and certain flight tests.

(a) No person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls. However, instrument flight instruction may be given in a single-engine airplane equipped with a single, functioning throwover control wheel in place of fixed, dual controls of the elevator and ailerons when—

(1) The instructor has determined that the flight can be conducted safely; and

(2) The person manipulating the controls has at least a private pilot certificate with appropriate category and class ratings.

(b) No person may operate a civil aircraft in simulated instrument flight unless—

(1) An appropriately rated pilot occupies the other control seat as safety pilot;

(2) The safety pilot has adequate vision forward and to each side of the aircraft, or a competent observer in the aircraft adequately supplements the vision of the safety pilot; and

(3) Except in the case of lighter-than-air aircraft, that aircraft is equipped with fully functioning dual controls. However, simulated instrumented flight may be conducted in a single-engine airplane, equipped with a single, functioning, throwover control wheel, in place of fixed, dual controls of the elevator and ailerons, when—

(i) The safety pilot has determined that the flight can be conducted safely; and

(ii) The person manipulating the control has at least a private pilot certificate with appropriate category and class ratings.

(c) No person may operate a civil aircraft that is being used for a flight test for an airline transport pilot certificate or a class or type rating on that certificate or for a Part 121 proficiency flight test unless the pilot seated at the controls, other than the pilot being checked, is fully qualified to act as pilot in command of the aircraft.

§ 91.111 Operating near other aircraft.

(a) No person may operate an aircraft so close to another aircraft as to create a collision hazard.

(b) No person may operate an aircraft in formation flight except by arrangement with the pilot in command of each aircraft in the formation.

(c) No person may operate an aircraft, carrying passengers for hire, in formation flight.

(d) Unless otherwise authorized by ATC, no person operating an aircraft may operate his aircraft in accordance with any clearance or instruction that has been issued to the pilot of another aircraft for radar air traffic control purposes.

§ 91.113 Right-of-way rules: Except water operations.

(a) *General.* When weather conditions permit, regardless of whether an operation is conducted under instrument flight rules or visual flight rules, vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft in compliance with this section. When a rule of this section gives another aircraft the right of way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it, unless well clear.

(b) *In distress.* An aircraft in distress has the right of way over all other air traffic.

(c) *Converging.* When aircraft of the same category are converging at approximately the same altitude (except head-on, or nearly so), the aircraft to the other's right has the right of way. If the aircraft are of different categories—

(1) A balloon has the right of way over any other category of aircraft;

(2) A glider has the right of way over an airship, airplane, or rotorcraft; and

(3) An airship has the right of way over an airplane or rotorcraft.

However, an aircraft towing or refueling other aircraft has the right of way over all other engine-driven aircraft.

(d) *Approaching head-on.* When aircraft are approaching each other head-on, or nearly so, each pilot of each aircraft shall alter course to the right.

(e) *Overtaking.* Each aircraft that is being overtaken has the right of way and each pilot of an overtaking aircraft shall alter course to the right to pass well clear.

(f) *Landing.* Aircraft, while on final approach to land or while landing, have the right of way over other aircraft in flight or operating on the surface. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right of way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft.

(g) *Inapplicability.* This section does not apply to the operation of an aircraft on water.

§ 91.115 Right-of-way rules: Water operations.

(a) *General.* Each person operating an aircraft on the water shall, insofar as possible, keep clear of all vessels and avoid impeding their navigation, and shall give way to any vessel or other aircraft that is given the right of way by any rule of this section.

(b) *Crossing.* When aircraft, or an aircraft and a vessel, are on crossing courses, the aircraft or vessel to the other's right has the right of way.

(c) *Approaching head-on.* When aircraft, or an aircraft and a vessel, are approaching head-on or nearly so, each shall alter its course to the right to keep well clear.

(d) *Overtaking.* Each aircraft or vessel that is being overtaken has the right of way, and the one overtaking shall alter course to keep well clear.

(e) *Special circumstances.* When aircraft, or an aircraft and a vessel, approach so as to involve risk of collision, each aircraft or vessel shall proceed with careful regard to existing circumstances, including the limitations of the respective craft.

§ 91.117 Aircraft speed.

(a) No person may operate an aircraft below 10,000 feet MSL at an indicated airspeed of more than 250 knots (288 m.p.h.).

(b) Unless otherwise authorized or required by ATC, no person may operate an aircraft within an airport traffic area at an indicated airspeed of more than—

(1) In the case of a reciprocating-engine-powered aircraft, 156 knots (180 m.p.h.); or

(2) In the case of a turbine-powered aircraft, 200 knots (230 m.p.h.).

Paragraph (b) does not apply to any operations within a terminal control area. Such operations shall comply with paragraph (a) of this section.

(c) No person may operate an aircraft in the airspace underlying a terminal control area, or in a VFR corridor designated through a terminal control area, at an indicated airspeed of more than 200 knots (230 m.p.h.).

However, if the minimum safe airspeed for any particular operation is

greater than the maximum speed prescribed in this section, the aircraft may be operated at that minimum speed.

§ 91.119 Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(a) *Anywhere.* An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.

(b) *Over congested areas.* Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

(c) *Over other than congested areas.* An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

(d) *Helicopters.* Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with routes or altitudes specifically prescribed for helicopters by the Administrator.

§ 91.121 Altimeter settings.

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—

(1) Below 18,000 feet MSL, to—

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in subdivision (i) of this subparagraph, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or

(2) At or above 18,000 feet MSL, to 29.92" Hg.

(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in the following table:

Current altimeter setting	Lowest usable flight level
29.92 (or higher)	180
29.91 through 29.42	185
29.41 through 28.92	190
28.91 through 28.42	195
28.41 through 27.92	200
27.91 through 27.42	205
27.41 through 26.92	210

(c) To convert minimum altitude prescribed under §§ 91.119 and 91.165 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:

Current altimeter setting	Adjustment factor (feet)
29.92 (or higher)	None
29.91 through 29.42	500
29.41 through 28.92	1,000
28.91 through 28.42	1,500
28.41 through 27.92	2,000
27.91 through 27.42	2,500
27.41 through 26.92	3,000

§ 91.123 Compliance with ATC clearances and instructions.

(a) When an ATC clearance has been obtained, no pilot in command may deviate from that clearance, except in an emergency, unless he obtains an amended clearance. However, except in positive controlled airspace, this paragraph does not prohibit him from canceling an IFR flight plan if he is operating in VFR weather conditions. If a pilot is uncertain of the meaning of an ATC clearance, he immediately shall request clarification from ATC.

(b) Except in an emergency, no person may operate an aircraft contrary to an ATC instruction, in an area in which air traffic control is exercised.

(c) Each pilot in command who, in an emergency, deviates, from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible.

(d) Each pilot in command who (though not deviating from a rule of this subpart) is given priority by ATC in an emergency, shall submit a detailed report of that emergency within 48 hours to the chief of that ATC facility, if requested by ATC.

§ 91.125 ATC light signals.

ATC light signals have the meaning shown in the following table:

Color and type of signal	Meaning with respect to aircraft on the surface	Meaning with respect to aircraft in flight
Steady green	Cleared for takeoff.	Cleared to land.
Flashing green	Cleared to taxi	Return for landing (to be followed by steady green at proper time).
Steady red	Stop	Give way to other aircraft and continue circling.
Flashing red	Taxi clear of runway in use.	Airport unsafe—do not land.
Flashing white	Return to starting point on airport.	Not applicable.
Alternating red and green.	Exercise extreme caution.	Exercise extreme caution.

§ 91.127 Operating on or in the vicinity of an airport: General rules.

(a) Unless otherwise required by Part 93 of this chapter, each person operating an aircraft on or in the vicinity of an airport shall comply with the requirements of this section and of §§ 91.129 and 91.131.

(b) Unless otherwise authorized or required by ATC, no person may operate an aircraft within an airport traffic area except for the purpose of landing at, or taking off from, an airport within that area. ATC authorization may be given as indiviual approval of specific operations or may be contained in written agreements between airport users and the tower concerned.

(c) Except when necessary for training or certification, the pilot in command of a civil turbojet-powered airplane shall use, as a final landing flap setting, the minimum certificated landing flap setting set forth in the approved performance information in the airplane flight manual for the applicable conditions. However, each pilot in command has the final authority and responsibility for the safe operation of his airplane, and he may use a different flap setting approved for that airplane if he determines that it is necessary in the interest of safety.

§ 91.129 Operation at airports without control towers.

Each person operating an aircraft to or from an airport without an operating control tower shall—

(a) In the case of an airplane approaching to land, make all turns of that airplane to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right, in which case the pilot shall make alll turns to the right;

(b) In the case of a helicopter approaching to land, avoid the flow of fixed-wing aircraft; and

(c) In the case of an aircraft departing the airport, comply with any FAA traffic pattern for that airport.

§ 91.131 Operation at airports with operating control towers.

(a) *General.* Unless otherwise authorized or required by ATC, each person operating an aircraft to, from, or on an airport with an operating control tower shall comply with the applicable provisions of this section.

(b) *Communications with control towers operated by the United States.* No person may, within an airport traffic area, operate an aircraft to, from, or on an airport having a control tower operated by the United States unless two-way radio communications are maintained between that aircraft and the control tower. However, if the aircraft radio fails in flight, he may operate that aircraft and land if weather conditions are at or above basic VFR weather minimums, he maintains visual contact with the tower, and he receives a clearance to land. If the aircraft radio fails while in flight under IFR, he must comply with § 91.185.

(c) *Communications with other control towers.* No person may, within an airport traffic area, operate an aircraft to, from, or on an airport having a control tower that is operated by any person other than the United States unless—

(1) If that aircraft's radio equipment so allows, two-way radio communications are maintained between the aircraft and the tower; or

(2) If that aircraft's radio equipment allows only reception from the tower, the pilot has the tower's frequency monitored.

(d) *Minimum altitudes.* When operating to an airport with an operating control tower, each pilot of—

(1) A turbine-powered airplane or a large airplane shall, unless otherwise required by the applicable distance from cloud criteria, enter the airport traffic area at an altitude of at least 1,500 feet above the surface of the airport and maintain at least 1,500 feet within the airport traffic area, including the traffic pattern, until further descent is required for a safe landing;

(2) A turbine-powered airplane or a large airplane approaching to land on a runway being served by an ILS, if the airplane is ILS equipped, shall fly that airplane at an altitude at or above the glide slope between the outer marker (or the point of interception with the glide slope, if compliance with the applicable distance from clouds criteria requires interception closer in) and the middle marker; and

(3) An airplane approaching to land on a runway served by a visual approach slope indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.

However, paragraphs (d) (2) and (3) of this section do not prohibit normal bracketing maneuvers above or below the glide slope that are conducted for the purpose of remaining on the glide slope.

(e) *Approches.* When approaching to land at an airport with an operating control tower, each pilot of—

(1) An airplane shall circle the airport to the left; and

(2) A helicopter shall avoid the flow of fixed-wing aircraft.

(f) *Departures.* No person may operate an aircraft taking off from an airport with an operating control tower except in compliance with the following:

(1) Each pilot shall comply with any departure procedures established for that airport by the FAA.

(2) Unless otherwise required by the departure procedure or the applicable distance from clouds criteria, each pilot of a turbine-powered airplane and each pilot of a large airplane shall climb to an altitude of 1,500 feet above the surface as rapidly as practicable.

(g) *Noise abatement runway system.* When landing or taking off from an airport with an operating control tower and for which a formal runway use program has been established by the FAA, each pilot of a turbine-powered airplane and each pilot of a large airplane assigned a noise abatement runway by ATC shall use that runway. However, consistent with the final authority of the pilot in command concerning the safe operation of the aircraft as prescribed in § 91.3(a), ATC may assign a different runway if requested by the pilot in the interest of safety.

(h) *Clearance required.* No person may operate, at an airport with an operating control tower, operate an aircraft on a runway or taxiway, or take off or land an aircraft, unless an appropiate clearance is received from ATC. A clearance to "taxi to" the take-off runway assigned to the aircraft is not a clearance to cross that assigned takeoff runway or to taxi on that runway at any point, but is a clearance to cross other runways that intersect the taxi route to that assigned takeoff runway. A clearance to "taxi to" any point other than an assigned takeoff runway is a clearance to cross all runways that intersect the taxi route to that point.

§ 91.133 Terminal control areas.

(a) Group I terminal control areas.

(1) *Operating rules.* No person may operate an aircraft within a Group I terminal control area designated in Part 71 of this chapter except in compliance with the following rules:

(i) No person may operate an aircraft within a Group I terminal control area unless he has received an appropriate authorization from ATC prior to the operation of that aircraft in that area.

(ii) Unless otherwise authorized by ATC, each person operating a large turbine-engine-powered airplane to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the terminal control area.

(2) *Pilot requirements.* The pilot in command of a civil aircraft may not land or take off that aircraft from an airport within a Group II terminal control area unless he holds at least a private pilot certificate.

(3) *Equipment requirements.* Unless otherwise authorized by ATC in the case of in-flight VOR, TACAN, or two-way radio failure or unless otherwise authorized by ATC in the case of a transponder failure occurring at any time, no person may operate an aircraft within a Group I terminal control area unless that aircraft is equipped with—

(i) An operable VOR or TACAN receiver (except in the case of helicopters);

(ii) An operable two-way radio capable of communicating with ATC on appropriate frequencies for that terminal control area; and

(iii) The applicable equipment specified in § 91.215.

(b) Group II terminal control areas.

(1) *Operating rules.* No person may operate an aircraft within a Group II terminal control area designated in Part 71 of this chapter except in compliance with the following rules:

(i) No person may operate an aircraft within a Group II terminal control area unless he has received an appropriate authorization from ATC prior to operation of that aircraft in that area and unless two-way radio communications are maintained within that area between that aircraft and the ATC facility.

(ii) Unless otherwise authorized by ATC, each person operating a large turbine-engine-powered airplane to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the terminal control area.

(2) *Equipment requirements.* Unless otherwise authorized by ATC in the case of in-flight VOR, TACAN, or two-

way radio failure or unless otherwise authorized by ATC in the case of a transponder failure occurring at any time, no person may operate an aircraft within a Group II terminal control area unless that aircraft is equipped with—

(i) An operable VOR or TACAN receiver (except in the case of helicopters);

(ii) An operable two-way radio capable of communicating with ATC on the appropriate frequencies for that terminal control area; and

(iii) The applicable equipment specified in § 91.215, except that automatic pressure altitude reporting equipment is not required for any operation within the terminal control area and a transponder is not required for IFR flights operating to or from an airport outside of, but in close proximity to, the terminal control area when the commonly used transition, approach, or departure procedures to such airport require flight within the terminal control area.

(c) *Group III terminal control areas.* No person may operate an aircraft within a Group III terminal control area designated in Part 71 unless the applicable provisions of § 91.215(b) are complied with, except that such compliance is not required if two-way radio communications are maintained within the TCA between the aircraft and the ATC facility and the pilot provides position, altitude, and proposed flight path prior to entry.

§ 91.135 Restricted and prohibited areas.

(a) No person may operate an aircraft within a restricted area (designated in Part 73) contrary to the restrictions imposed, or within a prohibited area, unless he has the permission of the using or controlling agency, as appropriate.

(b) Each person conducting, within a restricted area, an aircraft operation (approved by the using agency) that creates the same hazards as the operations for which the restricted area was designated may deviate from the rules of this subpart that are not compatible with the operation of the aircraft.

§ 91.137 Positive control areas and route segments.

(a) Except as provided in paragraph (b) of this section, no person may operate an aircraft within a positive control area or positive control route segment designated in Part 71 of this chapter unless that aircraft is—

(1) Operated under IFR at a specific flight level assigned by ATC;

(2) Equipped with instruments and equipment required for IFR operations;

(3) Flown by a pilot rated for instrument flight; and

(4) Equipped, when in a positive control area, with—

(i) The applicable equipment specified in § 91.215; and

(ii) A radio providing direct pilot/controller communication on the frequency specified by ATC for the area concerned.

(b) ATC may authorize deviations from the requirements of paragraph (a) of this section. In the case of an inoperative transponder, ATC may immediately approve an operation within a positive control area allowing flight to continue, if desired, to the airport of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made, or both. A request for authorization to deviate from a requirement of paragraph (a) of this section, other than for operation with an inoperative transponder as outlined above, must be submitted at least 4 days before the proposed operation, in writing, to the ATC center having jurisdiction over the positive control area concerned. ATC may authorize a deviation on a continuing basis or for an individual flight, as appropriate.

§ 91.139 Temporary flight restrictions.

(a) Whenever the Administrator determines it to be necessary in order to prevent an unsafe congestion of sightseeing aircraft above an incident or event which may generate a high degree of public interest, or to provide a safe environment for the operation of disaster-relief aircraft, a Notice to Airmen will be issued designating an area within which temporary flight restrictions apply.

(b) When a Notice to Airmen has been issued under this section, no person may operate an aircraft within the designated area unless—

(1) That aircraft is participating in disaster-relief activities and is being operated under the direction of the agency responsible for relief activities;

(2) That aircraft is being operated to or from an airport within the area and is operated so as not to hamper or endanger relief activities;

(3) That operation is specifically authorized under an IFR ATC clearance;

(4) VFR flight around or above the area is impracticable due to weather, terrain, or other considerations, prior notice is given to the air traffic service facility specified in the Notice to Airmen, and en route operation through the area is conducted so as not to hamper or endanger relief activities; or

(5) That aircraft is carrying properly accredited news representatives, or persons on official business concerning the incident or event which generated the issuance of the Notice to Airmen the operation is conducted in accordance with § 91.119 of this chapter the operation is conducted above the altitudes being used by relief aircraft unless otherwise authorized by the agency responsible for relief activities and further in connection with this type of operation, prior to entering the area the operator has filed with the air traffic service facility specified in the Notice to Airmen a flight plan that includes the following information:

(i) Aircraft identification, type, and color.

(ii) Radio communications frequencies to be used.

(iii) Proposed times of entry and exit of the designated area.

(iv) Name of news medium or purpose of flight.

(v) Any other information deemed necessary by ATC.

§ 91.141 Emergency air traffic rules.

(a) This section prescribes a process for utilizing Notices to Airmen (NOTAM's) to advise of the issuance and operations under emergency air traffic rules and regulations and designates the official who is authorized to issue NOTAM's on behalf of the Administrator in certain matters under this section.

(b) Whenever the Administrator determines that an emergency condition exists, or will exist, relating to the FAA's ability to operate the air traffic control system and during which normal flight operations under this chapter cannot be conducted consistent with the required levels of safety and efficiency—

(1) The Administrator issues an immediately effective air traffic rule or regulation in response to that emergency condition; and

(2) The Administrator or the Director, Air Traffic Service, may utilize the NOTAM system to provide notification of the issuance of the rule or regulation.

Those NOTAM's communicate information concerning the rules and regulations that govern flight operations, the use of navigation facilities, and designation of that airspace in which the rules and regulations apply.

(c) When a NOTAM has been issued under this section, no person may operate an aircraft, or other device governed by the regulation concerned, within the designated airspace except in accordance with the authorizations, terms, and conditions prescribed in the regulation covered by the NOTAM.

§ 91.143 Flight restrictions in the proximity of the Presidential and other parties.

No person may operate an aircraft over or in the vicinity of any area to be visited or traveled by the President, the Vice President, or other public figures contrary to the restrictions established by the Administrator and published in a Notice to Airmen (NOTAM).

§ 91.145 Flight limitations in the proximity of space flight recovery operations.

No person may operate any aircraft of U.S. registry, or pilot any aircraft under the authority of an airman certificate issued by the Federal Aviation Administration within areas designated in a NOTAM for space flight recovery operations except when authorized by ATC or operated under the control of the Department of Defense Manager for Manned Space Flight Support Operations.

§ 91.147–91.149 [Reserved]

Visual Flight Rules

§ 91.151 Fuel requirements for flight under VFR.

(a) No person may begin a flight in an airplane under VFR unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

(1) During the day, to fly after that for at least 30 minutes; or

(2) At night, to fly after that for at least 45 minutes.

(b) No person may begin a flight in a rotorcraft under VFR unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 20 minutes.

§ 91.153 VFR flight plan: Information required.

(a) *Information required.* Unless otherwise authorized by ATC, each person filing a VFR flight plan shall include in it the following information:

(1) The aircraft identification number and, if necessary, its radio call sign.

(2) The type of the aircraft or, in the case of a formation flight, the type of each aircraft and the number of aircraft in the formation.

(3) The full name and address of the pilot in command or, in the case of a formation flight, the formation commander.

(4) The point and proposed time of departure.

(5) The proposed route, cruising altitude (or flight level), and true airspeed at that altitude.

(6) The point of first intended landing and the estimated elapsed time until over that point.

(7) The radio frequencies to be used.

(8) The amount of fuel on board (in hours).

(9) The number of persons in the aircraft, except where that information is otherwise readily available to the FAA.

(10) Any other information the pilot in command or ATC believes is necessary for ATC purposes.

(b) *Cancellation.* When a flight plan has been activated, the pilot in command, upon canceling or completing the flight under the flight plan, shall notify an FAA Flight Service Station or ATC facility.

§ 91.155 Basic VFR weather minimums.

(a) Except as provided in § 91.157, no person may operate an aircraft under VFR when the flight visibility is less, or at a distance from clouds that is less, than that prescribed for the corresponding altitude in the following table:

Altitude	Flight visibility	Distance from clouds
1,200 feet or less above the surface (regardless of MSL altitude)—		
Within controlled airspace	3 statute miles	500 feet below. 1,000 feet above. 2,000 feet horizontal.
Outside controlled airspace	1 statute mile except as provided in § 91.155(b).	Clear of clouds.
More than 1,200 feet above the surface but less than 10,000 feet MSL—		
Within controlled airspace	3 statute miles	500 feet below. 1,000 feet above. 2,000 feet horizontal.
Outside controlled airspace	1 statute mile	500 feet below. 1,000 feet above. 2,000 feet horizontal.
More than 1,200 feet above the surface and at or above 10,000 feet MSL—.	5 statute miles	1,000 feet below. 1,000 feet above. 1 mile horizontal.

(b) When the visibility is less than 1 mile, a helicopter may be operated outside controlled airspace at 1,200 feet or less above the surface if operated at a speed that allows the pilot adequate opportunity to see any air traffic or other obstruction in time to avoid a collision.

(c) Except as provided in § 91.157, no person may operate an aircraft under VFR within a control zone beneath the ceiling when the ceiling is less than 1,000 feet.

(d) Except as provided in § 91.157, no person may take off or land an aircraft or enter the traffic pattern of an airport under VFR within a control zone—

(1) Unless ground visibility at that airport is at least 3 statute miles; or

(2) If ground visibility is not reported at that airport, unless flight visibility during landing or take off or while operating in the traffic pattern is at least 3 statute miles

(e) For the purposes of this section, an aircraft operating at the base altitude of a transition area or control area is considered to be within the airspace directly below that area.

§ 91.157 Special VFR weather minimums.

(a) Except as provided in § 93.111, when a person has received an appropriate ATC clearance, the special weather minimums of this section instead of those contained in § 91.155 apply to the operation of an aircraft by that person in a control zone under VFR.

(b) No person may operate an aircraft in a control zone under VFR except clear of clouds.

(c) No person may operate an aircraft (other than a helicopter) in a control zone under VFR unless flight visibility is at least 1 statute mile.

(d) No person may take off or land an aircraft (other than a helicopter) at any airport in a control zone under VFR—

(1) Unless ground visibility at that airport is at least 1 statute mile; or

(2) If ground visibility is not reported at that airport, unless flight visibility during landing or takeoff is at least 1 statute mile.

(e) No person may operate an aircraft (other than a helicopter) in a control zone under the special weather minimums of this section, between sunset and sunrise (or in Alaska, when the sun is more than 6 degrees below the horizon) unless—

(1) That person meets the applicable requirements for instrument flight under Part 61 of this chapter; and

(2) The aircraft is equipped as required in § 91.205(d).

§ 91.159 VFR cruising altitude or flight level.

Except while holding in a holding pattern of 2 minutes or less, or while

turning, each person operating an aircraft under VFR in level cruising flight more than 3,000 feet above the surface shall maintain the appropriate altitude or flight level prescribed below, unless otherwise authorized by ATC:

(a) When operating below 18,000 feet MSL and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude +500 feet (such as 3,500, 5,500, or 7,500); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude +500 feet (such as 4,500, 6,500, or 8,500).

(b) When operating above 18,000 feet MSL to flight level 290 (inclusive) and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd flight level +500 feet (such as 195, 215, or 235); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even flight level +500 feet (such as 185, 205, or 225).

(c) When operating above flight level 290 and—

(1) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 300 (such as flight level 300, 340, or 380); or

(2) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 320 (such as flight level 320, 360, or 400).

§§ 91.161-165 [Reserved]

Instrument Flight Rules

§ 91.167 Fuel requirements for flight in IFR conditions.

(a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft in IFR conditions unless it carries enough fuel (considering weather reports and forecasts, and weather conditions) to—

(1) Complete the flight to the first airport of intended landing;

(2) Fly from that airport to the alternate airport; and

(3) Fly after that for 45 minutes at normal cruising speed.

(b) Paragraph (a)(2) of this section does not apply if—

(1) Part 97 of this subchapter prescribes a standard instrument approach procedure for the first airport of intended landing; and

(2) For at least 1 hour before and 1 hour after the estimated time of arrival at the airport, the weather reports or forecasts or any combination of them indicate—

(i) The ceiling will be at least 2,000 feet above the airport elevation; and

(ii) Visibility will be at least 3 miles.

§ 91.169 IFR flight plan: Information required.

(a) *Information required.* Unless otherwise authorized by ATC, each person filing an IFR flight plan shall include in it the following information:

(1) Information required under § 91.153(a).

(2) An alternate airport, except as provided in paragraph (b) of this section.

(b) *Exceptions to applicability of paragraph (a)(2) of this section.* Paragraph (a)(2) of this section does not apply if Part 97 of this subchapter prescribes a standard instrument approach procedure for the first airport of intended landing and, for at least 1 hour before and 1 hour after the estimated time of arrival, the weather reports or forecasts or any combination of them, indicate—

(1) The ceiling will be at least 2,000 feet above the airport elevation; and

(2) The visibility will be at least 3 miles.

(c) *IFR alternate airport weather minimums.* Unless otherwise authorized by the Administrator, no person may include an alternate airport in an IFR flight plan unless current weather forecasts indicate that, at the estimated time of arrival at the alternate airport, the ceiling and visibility at that airport will be at or above the following alternate airport weather minimums:

(1) If an instrument approach procedure has been published in Part 97 for that airport, the alternate airport minimums specified in that procedure or, if none are so specified, the following minimums:

(i) Precision approach procedure: Ceiling 600 feet and visibility 2 statute miles.

(ii) Nonprecision approach procedure: Ceiling 800 feet and visibility 2 statute miles.

(2) If no instrument approach procedure has been published in Part 97 for that airport, the ceiling and visibility minimums are those allowing descent from the MEA, approach, and landing under basic VFR.

(d) *Cancellation.* When a flight plan has been activated, the pilot in command, upon canceling or completing the flight under the flight plan, shall notify an FAA Flight Service Station or ATC facility.

§ 91.171 VOR equipment check for IFR operations.

(a) No person may operate a civil aircraft under IFR using the VOR system of radio navigation unless the VOR equipment of that aircraft—

(1) Is maintained, checked, and inspected under an approved procedure; or

(2) Has been operationally checked within the preceding 30 days and was found to be within the limits of the permissible indicated bearing error set forth in paragraph (b) or (c) of this section.

(b) Except as provided in paragraph (c) of this section, each person conducting a VOR check under subparagraph (a)(2) of this section shall—

(1) Use, at the airport of intended departure, an FAA-operated or approved test signal or a test signal radiated by a certificated and appropriately rated radio repair station or, outside the United States, a test signal operated or approved by an appropriate authority to check the VOR equipment (the maximum permissible indicated bearing error is plus or minus 4 degrees); or

(2) If a test signal is not available at the airport of intended departure, use a point on an airport surface designated as a VOR system checkpoint by the Administrator, or, outside the United States, by an appropriate authority (the maximum permissible bearing error is plus or minus 4 degrees);

(3) If neither a test signal nor a designated checkpoint on the surface is available, use an airborne checkpoint designated by the Administrator or, outside the United States, by an appropriate authority (the maximum permissible bearing error is plus or minus 6 degrees); or

(4) If no check signal or point is available, while in flight—

(i) Select a VOR radial that lies along the centerline of an established VOR airway;

(ii) Select a prominent ground point along the selected radial preferably more than 20 miles from the VOR ground facility and maneuver the aircraft directly over the point at a reasonably low altitude; and

(iii) Note the VOR bearing indicated by the receiver when over the ground point (the maximum permissible variation between the published radial and the indicated bearing is 6 degrees).

(c) If dual system VOR (units independent of each other except for the antenna) is installed in the aircraft, the person checking the equipment may check one system against the other in place of the check procedures specified in paragraph (b) of this section. He shall tune both systems to the same VOR ground facility and note the indicated bearings to that station. The maximum

permissible variation between the two indicated bearings is 4 degrees.

(d) Each person making the VOR operational check, as specified in paragraph (b) or (c) of this section, shall enter the date, place, bearing error, and sign the aircraft log or other record. In addition, if a test signal radiated by a repair station, as specified in paragraph (b)(1) of this section, is used, an entry must be made in the aircraft log or other record by the repair station certificate holder or the certificate holder's representative certifying to the bearing transmitted by the repair station for the check and the date of transmission.

§ 91.173 ATC clearance and flight plan required.

No person may operate an aircraft in controlled airspace under IFR unless—

(a) He has filed an IFR flight plan; and

(b) He has received an appropriate ATC clearance.

§ 91.175 Takeoff and landing under IFR.

(a) *Instrument approaches to civil airports.* Unless otherwise authorized by the Administrator for paragraphs (a) through (k) of this section, when an instrument letdown to a civil airport is necessary, each person operating an aircraft, except a military aircraft of the United States, shall use a standard instrument approach procedure prescribed for the airport in Part 97 of this chapter.

(b) *Authorized DH or MDA.* For the purpose of this section, when the approach procedure being used provides for and requires use of a DH or MDA, the authorized decision height or authorized minimum descent altitude is the DH or MDA prescribed by the approach procedure, the DH or MDA prescribed for the pilot in command, or the DH or MDA for which the aircraft is equipped, whichever is higher.

(c) *Operation below DH or MDA.* Where a DH or MDA is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA or continue an approach below the authorized DH unless—

(1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under Part 121 or Part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;

(2) The flight visibility is not less than the visibility prescribed in the standard instrument approach being used;

(3) Except for a Category II or Category III approach where any necessary visual reference requirements are specified by the Administrator, at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot;

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red slide side row bars are also distinctly visible and identifiable.

(ii) The threshold.

(iii) The threshold markings.

(iv) The threshold lights.

(v) The runway end identifier lights.

(vi) The visual approach slope indicator.

(vii) The touchdown zone or touchdown zone markings.

(viii) The touchdown zone lights.

(ix) The runway or runway markings.

(x) The runway lights; and

(4) When the aircraft is on a straight-in nonprecision approach procedure which incorporates a visual descent point, the aircraft has reached the visual descent point, except where the aircraft is not equipped for or capable of establishing that point or a descent to the runway cannot be made using normal procedures or rates of descent if descent is delayed until reaching the point.

(d) *Landing.* No pilot operating an aircraft, except a military aircraft of the United States, may land that aircraft when the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

(e) *Missed approach procedures.* Each pilot operating an aircraft, except a military aircraft of the United States, shall immediately execute an appropriate missed approach procedure when either of the following conditions exist:

(1) Whenever the requirements of paragraph (c) of this section are not met at either of the following times:

(i) When the aircraft is being operated below MDA; or

(ii) Upon arrival at the missed approach point, including a DH where a DH is specified and its use is required, and at any time after that until touchdown.

(2) Whenever an identifiable part of the airport is not distinctly visible to the pilot during a circling maneuver at or above MDA, unless the inability to see an identifiable part of the airport results only from a normal bank of the aircraft during the circling approach.

(f) *Civil airport takeoff minimums.* Unless otherwise authorized by the Administrator, no pilot operating an aircraft under Part 121, 123, 125, 129, or 135 of this chapter may take off from a civil airport under IFR unless weather conditions are at or above the weather minimums for IFR takeoff prescribed for that airport under Part 97 of this chapter. If takeoff minimums are not prescribed under Part 97 of this chapter for a particular airport, the following minimums apply to takeoffs under IFR for aircraft operating under those parts:

(1) For aircraft having two engines or less—1 statute mile visibility.

(2) For aircraft having more than two engines—½ statute mile visibility.

(g) *Military airports.* Unless otherwise prescribed by the Administrator, each person operating a civil aircraft under IFR into or out of a military airport shall comply with the instrument approach procedures and the takeoff and landing minimums prescribed by the military authority having jurisdiction of that airport.

(h) *Comparable values of RVR and ground visibility.*

(1) Except for Category II or Category III minimums, if RVR minimums for takeoff or landing are prescribed in an instrument approach procedure, but RVR is not reported for the runway of intended operation, the RVR minimum shall be converted to ground visibility in accordance with the table in paragraph (h)(2) of this section and shall be the visibility minimum for takeoff or landing on that runway.

(2)

[illegible]	Visibility (statute miles)
1,600	¼
2,400	½
3,200	¾
4,000	1
4,500	1¼
5,000	1½
6,000	1¾

(i) *Operations on unpublished routes and use of radar in instrument approach procedures.* When radar is approved at certain locations for ATC purposes, it may be used no only for surveillance and precision radar approaches, as applicable, but also may be used in conjunction with instrument approach procedures predicted on other types of radio navigational aids. Radar vectors may be authorized to provide course guidance through the segments of an approach to the final course or fix. When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is

received, shall, in addition to complying with § 91.177, maintain the last altitude assigned to that pilot until the aircraft is established on a segment of a published route or instrument approach procedure unless a different altitude is assigned by ATC. After the aircraft is so established, published altitudes apply to descent within each succeeding route or approach segment unless a different altitude is assigned by ATC. Upon reaching the final approach course or fix, the pilot may either complete the instrument approach in accordance with a procedure approved for the facility or continue a surveillance or precision radar approach to a landing.

(j) *Limitation on procedure turns.* In the case of a radar vector to a final approach course or fix, a timed approach from a holding fix, or an approach for which the procedure specifies "No PT," no pilot may make a procedure turn unless cleared to do so by ATC.

(k) *ILS components.* The basic ground components of an ILS are the localizer, glide slope, outer marker, middle marker, and, when installed for use with Category II or Category III instrument approach procedures, an inner marker. A compass locator or precision radar may be substituted for the outer or middle marker. DME, VOR, or nondirectional beacon fixes authorized in the standard instrument approach procedure or surveillance radar may be substituted for the outer marker. Applicability of, and substitution for, the inner marker for Category II or III approaches is determined by the appropriate Part 97 approach procedure, letter of authorization, or operations specification pertinent to the operations.

§ 91.177 Minimum altitudes for IFR operations.

(a) *Operation of aircraft at minimum altitudes.* Except when necessary for takeoff or landing, or unless otherwise authorized by the Administrator, no person may operate an aircraft under IFR below—

(1) The applicable minimum altitudes prescribed in Parts 95 and 97 of this chapter; or

(2) If no applicable minimum altitude is prescribed in those parts—

(i) In the case of operations over an area designated as a mountainous area in Part 95, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 5 statute miles from the course to be flown; or

(ii) In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 5 statute miles form the course to be flown.

However, if both a MEA and a MOCA are prescribed for a particular route or route segment, a person may operate an aircraft below the MEA down to, but not below, the MOCA, when within 25 statute miles of the VOR concerned (based on the pilot's reasonable estimate of that distance).

(b) *Climb.* Climb to a higher minimum IFR altitude shall begin immediately after passing the point beyond which that minimum altitude applies, except that when ground obstructions intervene, the point beyond which the higher minimum altitude applies shall be crossed at or above the applicable MCA.

§ 91.179 IFR cruising altitude or flight level.

(a) *In controlled airspace.* Each person operating an aircraft under IFR in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned that aircraft by ATC. However, if the ATC clearance assigns "VFR conditions on-top," he shall maintain an altitude or flight level as prescribed by § 91.159.

(b) *In uncontrolled airspace.* Except while holding in a holding pattern of 2 minutes or less or while turning, each person operating an aircraft under IFR in level cruising flight in uncontrolled airspace shall maintain an appropriate altitude as follows:

(1) When operating below 18,000 feet MSL and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude (such as 3,000, 5,000, or 7,000); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude (such as 2,000, 4,000, or 6,000).

(2) When operating at or above 18,000 feet MSL but below flight level 290, and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd flight level (such as 190, 210, or 230); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even flight level (such as 180, 200, or 220).

(3) When operating at flight level 290 and above, and—

(i) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000-foot intervals, beginning at and including flight level 290 (such as flight level 290, 330, or 370); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000 foot intervals, beginning at and including flight level 310 (such as flight level 310, 350, or 390).

§ 91.181 Course to be flown.

Unless otherwise authorized by ATC, no person may operate an aircraft within controlled airspace under IFR except as follows:

(a) On a Federal airway, along the centerline of that airway.

(b) On any other route, along the direct course between the navigational aids or fixes defining that route.

However, this section does not prohibit maneuvering the aircraft to pass well clear of other air traffic or the maneuvering of the aircraft in VFR conditions to clear the intended flight path both before and during climb or descent.

§ 91.173 IFR radio communications.

The pilot in command of each aircraft operated under IFR in controlled airspace shall have a continuous watch maintained on the appropriate frequency and shall report by radio as soon as possible—

(a) The time and altitude of passing each designated reporting point, or the reporting points specified by ATC, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by ATC need be reported;

(b) Any unforecast weather condition encountered; and

(c) Any other information relating to the safety of flight.

§ 91.185 IFR operations. Two-way radio communications failure.

(a) *General.* Unless otherwise authorized by ATC, each pilot who has two-way communications failure when operating under IFR shall comply with the rules of this section.

(b) *VFR conditions.* If the failure occurs in VFR conditions, or if VFR conditions are encountered after the failure, each pilot shall continue the flight under VFR and land as soon as practicable.

(c) *IFR conditions.* If the failure occurs in IFR conditions, or if paragraph (b) of this section cannot be complied with, each pilot shall continue the flight according to the following:

(1) *Route.* (i) By the route assigned in the last ATC clearance received;

(ii) If being radar vectored, by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance;

(iii) In the absence of an assigned route, by the route that ATC has advised may be expected in a further clearance; or

(iv) In the absence of an assigned route or a route that ATC has advised

may be expected in a further clearance, by the route filed in the flight plan.

(2) *Altitude.* At the highest of the following altitudes of flight levels for the route segment being flown:

(i) The altitude or flight level assigned in the last ATC clearance received;

(ii) The minimum altitude (converted, if appropriate, to minimum flight level as prescribed in § 91.121(c)) for IFR operations; or

(iii) The altitude or flight level ATC has advised may be expected in a further clearance.

(3) *Leave holding fix.* If holding instructions have been received, leave the holding fix at the expect-further-clearance time received or, if an expected approach clearance time has been received, leave the holding fix in order to arrive over the fix from which the approach begins as close as possible to the expected approach clearance time.

(4) *Descent for approach.* Begin descent from the en route altitude or flight level upon reaching the fix from which the approach begins, but not before—

(i) The expect-approach-clearance time (if received); or

(ii) If no expect-approach-clearance time has been received, at the estimated time of arrival, shown on the flight plan, as amended with ATC.

§ 91.187 Operation under IFR in controlled airspace: Malfunction reports.

(a) The pilot in command of each aircraft operated in controlled airspace under IFR shall report immediately to ATC any of the following malfunctions of equipment occurring in flight:

(1) Loss of VOR, TACAN, ADF, or low frequency navigation receiver capability.

(2) Complete or partial loss of ILS receiver capability.

(3) Impairment of air/ground communications capability.

(b) In each report required by paragraph (a) of this section, the pilot in command shall include the—

(1) Aircraft identification;

(2) Equipment affected;

(3) Degree to which the capability of the pilot to operate under IFR in the ATC system is impaired; and

(4) Nature and extent of assistance he desires from ATC.

§ 91.189 Category II and III operations: General operating rules.

(a) No person may operate a civil aircraft in a Category II or III operation unless—

(1) The flightcrew of the aircraft consists of a pilot in command and a second in command who hold the appropriate authorizations and ratings prescribed in § 61.3 of this chapter;

(2) Each flight crewmember has adequate knowledge of, and familiarity with, the aircraft and the procedures to be used; and

(3) The instrument panel in front of the pilot who is controlling the aircraft has appropriate instrumentation for the type of flight control guidance system that is being used.

(b) Unless otherwise authorized by the Administrator, no person may operate a civil aircraft in a Category II or Category III operation unless each ground component required for that operation and the related airborne equipment is installed and operating.

(c) For the purpose of this section, when the approach procedure being used provides for and requires use of a DH, the authorized decision height is the DH prescribed by the approach procedure, the DH prescribed for the pilot in command, or the DH for which the aircraft is equipped, whichever is higher.

(d) Unless otherwise authorized by the Administrator, no pilot operating an aircraft in Category II or Category III approach that provides and requires use of a DH may continue the approach below the authorized decision height unless the following conditions are met:

(1) The aircraft is in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and where the descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing.

(2) At least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable.

(ii) The threshold.

(iii) The threshold markings.

(iv) The threshold lights.

(v) The touchdown zone or touchdown zone markings.

(vi) The touchdown zone lights.

(e) Unless otherwise authorized by the Administrator, each pilot operating an aircraft shall immediately execute an appropriate missed approach whenever prior to touchdown the requirements of paragraph (d) of this section are not met.

(f) No person operating an aircraft using a Category III approach without decision height may land that aircraft except in accordance with the provisions of the letter of authorization issued by the Administrator.

(g) Paragraphs (a) through (f) of this section do not apply to operations conducted by the holders of certificates issued under Parts 121, 123, 125, 129, or 135 of this chapter. No person may operate a civil aircraft in a Category II or Category III operation conducted by the holder of a certificate issued under Parts 121, 123, 125, 129, or 135 of this chapter unless the operation is conducted in accordance with that certificate holder's operation specifications.

§ 91.191 Category II manual.

(a) No person may operate a civil aircraft of United States registry in a Category II operation unless—

(1) There is available in the aircraft a current, approved Category II manual for that aircraft;

(2) The operation is conducted in accordance with the procedures, instructions, and limitations in that manual; and

(3) The instruments and equipment listed in the manual that are required for a particular Category II operation have been inspected and maintained in accordance with the maintenance program contained in that manual.

(b) Each operator shall keep a current copy of the approved manual at its principal base of operations and shall make it available for inspection upon request of the Administrator.

(c) This section does not apply to operations conducted by the holder of a certificate issued under Part 121 of this chapter.

§ 91.193 Certificate of authorization for certain Category II operations.

The Administrator may issue a certificate of authorization authorizing deviations from the requirements of §§ 91.189, 91.191, and 91.205(f) for the operation of small airplanes identified as Category A aircraft in § 97.3 of this chapter in Category II operations if he finds that the proposed operation can be safely conducted under the terms of the certificate. Such authorization does not permit operation of the aircraft carrying persons or property for compensation or hire.

§§ 91.195–91.199 [Reserved]

Subpart C—Equipment, Instrument, and Certificate Requirements

§ 91.201 Applicability.

This subpart prescribes general equipment, instrument, and certificate requirements.

§ 91.203 Civil aircraft: Certifications required.

(a) Except as provided in § 91.717, no person may operate a civil aircraft unless it has within it the following:

(1) An appropriate and current airworthiness certificate. Each U.S. airworthiness certificate used to comply with this subparagraph (except a special flight permit, a copy of the applicable operations specifications issued under § 21.197(c) of this chapter, appropriate sections of the air carrier manual required by Parts 121 and 127 of this chapter containing that portion of the operations specifications issued under § 21.197(c), or an authorization under § 91.613) must have on it the registration number assigned to the aircraft under Part 47 of this chapter. However, the airworthiness certificate need not have on it as assigned special identification number before 10 days after that number is first affixed to the aircraft. A revised airworthiness certificate having on it an assigned special identification number that has been affixed to an aircraft may only be obtained upon application to an FAA Flight Standards district office.

(2) A registration certificate issued to its owner.

(b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under § 91.717 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

§ 91.205 Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements.

(a) *General.* Except as provided in paragraphs (c)(3) and (e) of this section, no person may operate a powered civil aircraft with a standard category U.S. airworthiness certificate in any operation described in paragraphs (b) through (f) of this section unless that aircraft contains the instruments and equipment specified in those paragraphs (or FAA-approved equivalents) for that type of operation, and those instruments and items of equipment are in operable condition.

(b) *Visual flight rules (day).* For VFR flight during the day, the following instruments and equipment are required:

(1) Airspeed indicator.

(2) Altimeter.

(3) Magnetic direction indicator.

(4) Tachometer for each engine.

(5) Oil pressure gauge for each engine using pressure system.

(6) Temperature gauge for each liquid-cooled engine.

(7) Oil temperature gauge for each air-cooled engine.

(8) Manifold pressure gauge for each altitude engine.

(9) Fuel gauge indicating the quantity of fuel in each tank.

(10) Landing gear position indicator, if the aircraft has a retractable landing gear.

(11) If the aircraft is operated for hire over water and beyond power-off gliding distance from shore, approved flotation gear readily available to each occupant and at least one pyrotechnic signaling device.

(12) Except as to airships, an approved safety belt for all occupants who have reached their second birthday. After December 4, 1981, each safety belt must be equipped with an approved metal-to-metal latching device. The rated strength of each safety belt shall not be less than that corresponding with the ultimate load factors specified in the current applicable aircraft airworthiness requirements considering the dimensional characteristics of the safety belt installation for the specific seat or berth arrangement. The webbing of each safety belt shall be replaced as required by the Administrator.

(13) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness for each front seat. The shoulder harness must be designed to protect the occupant from serious head injury when the occupant experiences the ultimate interia forces specified in § 23.561(b)(2) of this chapter. Each shoulder harness installed at a flight crewmember station must permit the crewmember, when seated and with his safety belt and shoulder harness fastened, to peform all fuctions necessary for flight operations. For purposes of this paragraph—

(i) The date of manufacture of an airplane is the date the inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data; and

(ii) A front seat is a seat located at a flight crewmember station or any seat located alongside such a seat.

(c) *Visual flight rules (night).* For VFR flight at night, the following instruments and equipment are required:

(1) Instruments and equipment specified in paragraph (b) of this section.

(2) Approved position lights.

(3) An approved aviation red or aviation white anticollision light system on all U.S.-Registered civil aircraft. Anticollision light systems initially installed after August 11, 1971, on aircraft for which a type certificate was issued or applied for before August 11, 1971, must at least meet the anticollision light standards of Part 23, 25, 27, or 29, as applicable, that were in effect on August 10, 1971, except that the color may be either aviation red or aviation white. In the event of failure of any light of the anticollision light system, operations with the aircraft may be continued to a stop where repairs or replacement can be made.

(4) If the aircraft is operated for hire, one electric landing light.

(5) An adequate source of electrical energy for all installed electrical and radio equipment.

(6) One spare set of fuses, or three spare fuses of each kind required.

(d) *Instrument flight rules.* For IFR flight the following instruments and equipment are required:

(1) Instruments and equipment specified in paragraph (b) of this section, and for night flight, instruments and equipment specified in paragraph (c) of this section.

(2) Two-way radio communications system and navigational equipment appropriate to the ground facilities to be used.

(3) Gyroscopic rate-of-turn indicator, except on the following aircraft:

(i) Large airplanes with a third attitude instrument system useable through flight attitudes of 360 degrees of pitch and roll and installed in accrodance with § 212.305(j) of this chapter; and

(ii) Rotorcraft, type certificated under Part 29 of this chapter, with a third attitude instrument system useable through flight attitudes of ±80 degrees of pitch and ±120 degrees of roll and installed in accordance with § 29.1303(g) of this chapter.

(4) Slip-skid indicator.

(5) Sensitive altimeter adjustable for barometric pressure.

(6) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital presentation.

(7) Generator of adequate capacity.

(8) Gyroscopic pitch and bank indicator (artificial horizon).

(9) Gyroscopic direction indicator (directional gyro or equivalent).

(e) *Flight at and above 24,000 feet MSL.* If VOR navigational equipment is required under paragraph (d)(2) of this section, no person may operate a U.S.-registered civil aircraft within the 50 states and the District of Columbia at or above 24,000 feet MSL unless that aircraft is equipped with approved distance measuring equipment (DME). When DME required by this paragraph fails at and above 24,000 feet MSL, the pilot in command of the aircraft shall notify ATC immediately, and then may

continue operations at and above 24,000 feet MSL to the next airport of intended landing at which repairs or replacement of the equipment can be made.

(f) *Category II operations.* For Category II operations the instruments and equipment specified in paragraph (d) of this section and Appendix A to this part are required. This paragraph does not apply to operations conducted by the holder of a certificate issued under Part 121 of this chapter.

§ 91.207 Emergency locator transmitters.

(a) Except as provided in paragraphs (e) and (f) of this section, no person may operate a U.S.-registered civil airplane unless it meets the applicable requirements of paragraphs (b), (c), and (d) of this section.

(b) To comply with paragraph (a) of this section, each U.S.-registered civil airplane must be equipped as follows:

(1) For operations governed by the supplemental air carrier and commercial operator rules of Part 121 and 125 of this chapter or the air travel club rules of Part 123 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO–C91.

(2) For charter flights governed by the domestic and flag air carrier rules of Part 121 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO–C91.

(3) For operations governed by Part 135 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO–C91.

(4) For operations other than those specified in paragraphs (6)(1), (2), and (3) of this paragraph, there must be attached to the airplane a personal type or an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO–C91.

(c) Each emergency locator transmitter required by paragraphs (a) and (b) of this section must be attached to the airplane in such a manner that the probability of damage to the transmitter in the event of crash impact is minimized. Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable.

(d) Batteries used in the emergency locator transmitters required by paragraphs (a) and (b) of this section must be replaced (or recharged, if the battery is rechargeable)—

(1) When the transmitter has been in use for more than 1 cumulative hour; or

(2) When 50 percent of their useful life (or, for rechargeable batteries, 50 percent of their useful life of charge), as established by the transmitter manufacturer under TSO–C91, paragraph (g)(2), has expired.

The new expiration date for the replacement (or recharge) of the battery must be marked legibly on the outside of the transmitter and entered in the aircraft maintenance record. Subparagraph (d)(2) of this paragraph does not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

(e) Notwithstanding paragraphs (a) and (b) of this section, a person may—

(1) Ferry a newly acquired airplane from the place where possession of it was taken to a place where the emergency locator transmitter is to be installed; and

(2) Ferry an airplane with an inoperative emergency locator transmitter from a place where repairs or replacement cannot be made to a place where they can be made.

No person other than required crewmembers may be carried aboard an airplane being ferried pursuant to paragraph (e) of this section.

(f) Paragraphs (a) and (b) of this section do not apply to—

(1) Turbojet-powered aircraft;

(2) Aircraft while engaged in scheduled flights by scheduled air carriers certificated by the Civil Aeronautics Board;

(3) Aircraft while engaged in training operations conducted entirely within a 50-mile radius of the airport from which such local flight operations began;

(4) Aircraft while engaged in flight operations incident to design and testing;

(5) New aircraft while engaged in flight operations incident to their manufacture, preparation, and delivery;

(6) Aircraft while engaged in flight operations incident to the aerial application of chemicals and other substances for agricultural purposes;

(7) Aircraft certificated by the Administrator for research and development purposes;

(8) Aircraft while used for showing compliance with regulations, crew training, exhibition, air racing, or market surveys;

(9) Aircraft equipped to carry not more than one person; and

(10) An aircraft during any period for which the transmitter has been temporarily removed for inspection, repair, modification, or replacement, subject to the following:

(i) No person may operate the aircraft unless the aircraft records contain an entry which includes the date of initial removal, the make, model, serial number, and reason for removal of the transmitter, and a placard is located in view of the pilot to show "ELT not installed."

(ii) No person may operate the aircraft more than 90 days after the ELT is initially removed from the aircraft.

§ 91.209 Aircraft lights.

No person may, during the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than 6 degrees below the horizon)—

(a) Operate an aircraft unless it has lighted position lights;

(b) Park or move an aircraft in, or in dangerous proximity to, a night flight operations area of an airport unless the aircraft—

(1) Is clearly illuminated;

(2) Has lighted position lights; or

(3) Is in an area which is marked by obstruction lights;

(c) Anchor an aircraft unless the aircraft—

(1) Has lighted anchor lights; or

(2) Is in an area where anchor lights are not required on vessels; or

(d) Operate an aircraft, required by § 91.205(c)(3) to be equipped with an anticollision light system, unless it has approved and lighted aviation red or aviation white anticollision lights. However, the anticollision lights need not be lighted when the pilot in command determines that, because of operating conditions, it would be in the interest of safety to turn the lights off.

§ 91.211 Supplemental oxygen.

(a) *General.* No person may operate a civil aircraft of U.S. registry—

(1) At cabin pressure altitudes above 12,500 feet (MSL) up to and including 14,000 feet (MSL) unless the required minimum flightcrew is provided with and uses supplemental oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration;

(2) At cabin pressure altitudes above 14,000 feet (MSL) unless the required minimum flightcrew is provided with and uses supplemental oxygen during the entire flight time at those altitudes; and

(3) At cabin pressure altitudes above 15,000 feet (MSL) unless each occupant of the aircraft is provided with supplemental oxygen.

(b) *Pressurized cabin aircraft.* (1) No person may operate a civil aircraft of U.S. registry with a pressurized cabin—

(i) At flight altitudes above flight level 250 unless at least a 10-minute supply of supplemental oxygen, in addition to any oxygen required to satisfy paragraph (a) of this section, is available for each occupant of the aircraft for use in the event that a descent is necessitated by loss of cabin pressurization; and

(ii) At flight altitudes above flight level 350 unless one pilot at the controls of the airplane is wearing and using an oxygen mask that is secured and sealed and that either supplies oxygen at all times or automatically supplies oxygen whenever the cabin pressure altitude of the airplane exceeds 14,000 feet (MSL), except that the one pilot need not wear and use an oxygen mask while at or below flight level 410 if there are two pilots at the controls and each pilot has a quick-donning type of oxygen mask that can be placed on the face with one hand from the ready position within 5 seconds; supplying oxygen and properly secured and sealed.

(2) Notwithstanding subparagraph (b)(1)(ii) of this section, if for any reason at any time it is necessary for one pilot to leave his station at the controls of the aircraft when operating at flight altitudes above flight level 350, the remaining pilot at the controls shall put on and use his oxygen mask until the other pilot has returned to his station.

§ 91.213 Inoperable instruments and equipment for multiengine aircraft.

(a) No person may take off a multiengine civil aircraft with inoperable instruments or equipment installed unless the following conditions are met:

(1) An approved minimum equipment list exists for that aircraft.

(2) The aircraft has within it a letter of authorization, issued by the FAA Flight Standards district office having jurisdiction over the area in which the operator is located, authorizing operation of the aircraft under the minimum equipment list. The letter of authorization may be obtained by written request of the airworthiness certificate holder. The minimum equipment list and the letter of authorization constitute a supplemental type certificate for the aircraft.

(3) The approved minimum equipment list must—

(i) Be prepared in accordance with the limitations specified in paragraph (b) of this section; and

(ii) Provide for the operation of the aircraft with the instruments and equipment in an inoperable condition.

(4) The aircraft records available to the pilot must include an entry describing the inoperable instruments and equipment.

(5) The aircraft is operated under all applicable conditions and limitations contained in the minimum equipment list and the letter authorizing the use of the list.

(b) The following instruments and equipment may not be included in a minimum equipment list:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations by this part.

(c) A person authorized to use an approved minimum equipment list issued under Part 121, 125, or 135 for a specific aircraft may use that minimum equipment list in connection with operations conducted with that aircraft under this part.

(d) Notwithstanding any other provision of this section, an aircraft with inoperable instruments or equipment may be operated under a special flight permit issued in accordance with §§ 21.197 and 21.199 of this chapter.

Effective Date Note: The effective date of § 91.213 was stayed indefinitely at 44 FR 62885, November 1, 1979.

§ 91.215 ATC transponder and altitude reporting equipment and use.

(a) *All airspace: U.S.-registered civil aircraft.* For operations not conducted under Part 121, 123, 125, 127, or 135 of this chapter, ATC transponder equipment installed after January 1, 1974, in U.S.-registered civil aircraft not previously equipped with an ATC transponder and all ATC transponder equipment used in U.S.-registered civil aircraft after July 1, 1975, must meet the performance and environmental requirements of any class of TSO–C74b or any class of TSO–C74c, as appropriate, except that the Administrator may approve the use of TSO–C74 or TSO–C74a equipment after July 1, 1975, if the applicant submits data showing that such equipment meets the minimum performance standards of the appropriate class of TSO–C74c and environmental conditions of the TSO under which it was manufactured.

(b) *Controlled airspace: All aircraft.* Except for persons operating helicopters in terminal control areas at or below 1,000 feet AGL under the terms of a letter of agreement, and except for persons operating gliders above 12,500 feet MSL but below the floor of the positive control area, no person may operate an aircraft in the controlled airspace prescribed in subparagraphs (b)(1) through (b)(4) of this paragraph unless that aircraft is equipped with an operable coded radar beacon transponder having a Mode 3/A 4096 code capability, replying to Mode 3/A interrogation with the code specified by ATC, and is equipped with automatic pressure altitude reporting equipment having a Mode C capability that automatically replies to Mode C interrogations by transmitting pressure altitude information in 100-foot increments. This requirement applies—

(1) In Group I terminal control areas governed by § 91.133(a);

(2) In Group II terminal control areas governed by § 91.133(b), except as provided therin;

(3) In Group III terminal control areas governed by § 91.133(c), except as provided therein; and

(4) In all controlled airspace of the 48 contiguous States and the District of Columbia above 12,500 feet MSL, excluding the airspace at and below 2,500 feet AGL.

(c) *ATC authorized deviations.* ATC may authorize deviations from paragraph (b) of this section—

(1) Immediately, to allow an aircraft with an inoperative transponder to continue to the airport of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made, or both;

(2) Immediately, for operations of aircraft with an operating transponder but without operating automatic pressure altitude reporting equipment having a Mode C capability; and

(3) On a continuing basis, or for individual flights, for operations of aircraft without a transponder, in which case the request for a diviation must be submitted to the ACT facility having jurisdiction over the airspace concerned at least 4 hours before the proposed operation.

§ 91.217 Data correspondence between automatically reported pressure altitude data and the pilot's altitude reference.

No person may operate any automatic pressure altitude reporting equipment associated with a radar beacon transponder—

(a) When deactivation of that equipment is directed by ATC;

(b) Unless, as installed, that equipment was tested and calibrated to transmit altitude data corresponding within 125 feet (on a 95 percent probability basis) of the indicated or calibrated datum of the altimeter normally used to maintain flight altitude, with that altimeter referenced to 29.92 inches of mercury for altitudes from sea level to the maximum operating altitude of the aircraft; or

(c) The altimeters and digitizers in that equipment meet the standards of TSO–C10b and TSO–C88, respectively.

§ 91.219 Altitude alerting system or device: Turbojet-powered civil airplanes.

(a) Except as provided in paragraph (d) of this section, no person may operate a turbojet-powered U.S.-registered civil airplane unless that airplane is equipped with an approved altitude altering system or device that is in operable condition and meets the requirements of paragraph (b) of this section.

(b) Each altitude alerting system or device required by paragraph (a) of this section must be able to—

(1) Alert the pilot—

(i) Upon approaching a preselected altitude in either ascent or descent, by a sequence of both aural and visual signals in sufficient time to establish level flight at that preselected altitude; or

(ii) Upon approaching a preselected altitude in either ascent or descent, by a sequence of visual signals in sufficient time to establish level flight at that preselected altitude, and when deviating above and below that preselected altitude, by an aural signal;

(2) Provide the required signals from sea level to the highest operating altitude approved for the airplane in which it is installed;

(3) Preselected altitudes in increments that are commensurate with the altitudes at which the aircraft is operated;

(4) Be tested without special equipment to determine proper operation of the alerting signals; and

(5) Accept necessary barometric pressure settings if the system or device operates on barometric pressure. However, for operations below 3,000 feet AGL, the system or device need only provide one signal, either visual or aural, to comply with this paragraph. A radio altimeter may be included to provide the signal if the operator has an approved procedure for its use to determine DH or MDA, as appropriate.

(c) Each operator to which this section applies must establish and assign procedures for the use of the altitude alerting system or device and each flight crewmember must comply with those procedures assigned to him.

(d) Paragraph (a) of this section does not apply to any operation of an airplane that has an experimental certificate or to the operation of an airplane for the following purposes:

(1) Ferrying a newly acquired airplane from the place where possession of it was taken to a place where the latitude alerting system or device is to be installed.

(2) Continuing a flight as originally planned, if the altitude alerting system or device becomes inoperative after the airplane has taken off; however, the flight may not depart from a place where repair or replacement can be made.

(3) Ferrying an airplane with an inoperative altitude alerting system or device from a place where repair or replacement cannot be made to a place where it can be made.

(4) Conducting an airworthiness flight test of the airplane.

(5) Ferrying an airplane to a place outside the United States for the purpose of registering it in a foreign country.

(6) Conducting a sales demonstration of the operation of the operation of the airplane.

(7) Training foreign flightcrews in the operation of the airplane prior to ferrying it to a place outside the United States for the purpose of registering it in a foreign country.

§§ 91.221–91.299 [Reserved]

Subpart D—Special Flight Operations

§91.301 Applicability.

This subpart prescribes additional rules concerning acrobatic flight, flight test areas, parachutes and parachuting, towing gliders, towing other than gliders, restricted category aircraft, limited category aircraft, provisionally certificated aircraft, experimentally certificated aircraft, and the carriage of candidates in Federal elections.

§ 91.303 Acrobatic flight.

No person may operate an aircraft in acrobatic flight—

(a) Over any congested area of a city, town, or settlement;

(b) Over an open air assembly of persons;

(c) Within a control zone or Federal airway;

(d) Below an altitude of 1,500 feet above the surface; or

(e) When flight visibility is less than 3 miles.

For the purposes of this section, acrobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight.

§ 91.305 Flight test areas.

No person may flight test an aircraft except over open water, or sparsely populated areas, having light air traffic.

§ 91.307 Parachutes and parachuting.

(a) No pilot of a civil aircraft may allow a parachute that is available for emergency use to be carried in that aircraft unless it is an approved type and—

(1) If a chair type (canopy in back), it has been packed by a certificated and appropriately rated parachute rigger within the preceding 120 days; or

(2) If any other type, it has been packed by a certificated and appropriately rated parachute rigger—

(i) Within the preceding 120 days, if its canopy, shrouds, and harness are composed exclusively of nylon, rayon, or other similar synthetic fiber or materials that are substantially resistant to damage from mold, mildew, or other fungi and other rotting agents propagated in a moist environment; or

(ii) Within the preceding 60 days, if any part of the parachute is composed of silk, pongee, or other natural fiber, or materials not specified in paragraph (a)(2)(i) of this section.

(b) Except in an emergency, no pilot in command may allow, and no person may make, a parachute jump from an aircraft within the United States except in accordance with Part 105.

(c) Unless each occupant of the aircraft is wearing an approved parachute, no pilot of a civil aircraft carrying any person (other than a crewmember) may execute any intentional maneuver that exceeds—

(1) A band of 60 degrees relative to the horizon; or

(2) A nose-up or nose-down attitude of 30 degrees relative to the horizon.

(d) Paragraph (c) of this section does not apply to—

(1) Flight tests for pilot certification or rating; or

(2) Spins and other flight maneuvers required by the regulations for any certificate or rating when given by—

(i) A certificated flight instructor; or

(ii) An airline transport pilot instructing in accordance with § 61.169 of this chapter.

(e) For the purposes of this section, "approved parachute" means—

(1) A parachute manufactured under a type certificate or a technical standard order (C–23 series); or

(2) A personnel-carrying military parachute identified by an NAF, AAF, or

AN drawing number, and AAF order number, or any other military designation or specification number.

§ 91.309 Towing: Gliders.

(a) No person may operate a civil aircraft towing a glider unless—

(1) The pilot in command of the towing aircraft is qualified under § 61.69 of this chapter;

(2) The towing aircraft is equipped with a tow-hitch of a kind, and installed in a manner, approved by the Administrator;

(3) The towline used has a breaking strength not less than 80 percent of the maximum certificated operating weight of the glider and not more than twice this operating weight. However, the towline used may have a breaking strength more than twice the maximum certificated operating weight of the glider if—

(i) A safety link is installed at the point of attachment of the towline to the glider with a breaking strength not less than 80 percent of maximum certificated operating weight of the glider and not greater than twice this operating weight; and

(ii) A safety link is installed at the point of attachment of the towline to the towing aircraft with a breaking strength greater, but not more than 25 percent greater, than that of the safety link at the towed glider end of the towline and not greater than twice the maximum certificated operating weight of the glider;

(4) Before conducting any towing operations within a control zone, or before making each towing flight within a control zone if required by ATC, the pilot in command notifies the control tower if one is in operation in that control zone. If such a control tower is not in operation, he must notify the FAA Flight Service Station serving the control zone before conducting any towing operation in that control zone; and

(5) The pilots of the towing aircraft and the glider have agreed upon a general course of action, including takeoff and release signals, airspeeds, and emergency procedures for each pilot.

(b) No pilot of a civil aircraft may intentionally release a towline, after release of a glider, in a manner so as to endanger the life or property of another.

§ 91.311 Towing: Other than under § 91.309.

No pilot of a civil aircraf may tow anything with that aircraft (other than under § 91.309) except in accordance with the terms of a certificate of waiver issued by the Administrator.

§ 91.313 Restricted category civil aircraft: Operating limitations.

(a) No person may operate a restricted category civil aircraft—

(1) For other than the special purpose for which it is certificated; or

(2) In an operation other than one necessary for the accomplishment of the work activity directly associated with that special purpose.

For the purposes of this paragraph, the operation of a restricted category civil aircraft to provide flight crewmember training in a special purpose operation for which the aircraft is certificated is considered to be an operation for that special purpose.

(b) No person may operate a restricted category civil aircraft carrying persons or property for compensation or hire. For the purposes of this paragraph, a special purpose operation involving the carriage of persons or materials necessary for the accomplishment of that operation such as crop dusting, seeding, spraying, and banner towing (including the carrying of required persons or materials to the location of that operation), and operation for the purpose of providing flight crewmember training in a special purpose operation, are not considered to be the carrying of persons or property for compensation or hire.

(c) No person may be carried on a restricted category civil aircraft unless—

(1) He is a flight crewmember;

(2) He is a flight crewmember trainee;

(3) He performs an essential function in connection with a special purpose operation for which the aircraft is certificated; or

(4) He is necessary for the accomplishment of the work activity directly associated with that special purpose.

(d) Except when operating in accordance with the terms and conditions of a certificate of waiver or special operating limitations issued by the Administrator, no person may operate a restricted category civil aircraft within the United States—

(1) Over a densely populated area;

(2) In a congested airway; or

(3) Near a busy airport where passenger transport operations are conducted.

(e) This section does not apply to nonpassenger-carrying civil rotorcraft external-load operations conducted under Part 133 of this chapter.

(f) No person may operate a small restricted category civil airplane, manufactured after July 18, 1978, unless an approved shoulder harness is installed for each front seat. The shoulder harness must be designed to protect each occupant from serious head injury when the occupant experiences the ultimate inertia forces specified in § 23.561(b)(2) of this chapter. The shoulder harness installation at each flight crewmember station must permit the crewmember, when seated and with his safety belt and shoulder harness fastened, to perform all functions necessary for flight operations. For purposes of this paragraph—

(1) The date of manufacture of an airplane is the date the inspection acceptance records reflect that the airplane is complete and meets the FAA-approved type design data; and

(2) A front seat is a seat located at a flight crewmember station or any seat located alongside such a seat.

§ 91.315 Limited category civil aircraft: Operating limitations.

No person may operate a limited category civil aircraft carrying persons or property for compensation or hire.

§ 91.317 Provisionally certificated civil aircraft: Operating limitations.

(a) No person may operate a provisionally certificated civil aircraft unless he is eligible for a provisional airworthiness certificate under § 21.213 of this chapter.

(b) No person may operate a provisionally certificated civil aircraft outside the United States unless he has specific authority to do so from the Administrator and each foreign country involved.

(c) Unless otherwise authorized by the Director of Airworthiness, no person may operate a provisionally certificated civil aircraft in air transportaion.

(d) Unless otherwise authorized by the Administrator, no person may operate a provisionally certificated civil aircraft except—

(1) In direct conjunction with the type of supplemental type certification of that aircraft;

(2) For training flightcrews, including simulated air carrier operations;

(3) Demonstration flights by the manufacturer for prospective purchasers;

(4) Market surveys by the manufacturer;

(5) Flight checking of instruments, accessories, and equipment that do not affect the basic airworthiness of the aircraft; or

(6) Service testing of the aircraft.

(e) Each person operating a provisionally certificated civil aircraft shall operate within the prescribed limitations displayed in the aircraft or set forth in the provisional aircraft flight manual or other appropriate document.

However, when operating in direct conjunction with the type or supplemental type certification of the aircraft, he shall operate under the experimental aircraft limitations of § 21.191 of this chapter and when flight testing, shall operate under the requirements of § 91.305 of this chapter.

(f) Each person operating a provisionally certificated civil aircraft shall establish approved procedures for—

(1) The use and guidance of flight and ground personnel in operating under this section; and

(2) Operating in and out of airports where takeoffs or approaches over populated areas are necessary.

No person may operate that aircraft except in compliance with the approved procedures.

(g) Each person operating a provisionally certificated civil aircraft shall ensure that each flight crewmember is properly certificated and has adequate knowledge of, and familiarity with, the aircraft and procedures to be used by that crewmember.

(h) Each person operating a provisionally certificated civil aircraft shall maintain it as required by applicable regulations and as may be specially prescribed by the Administrator.

(i) Whenever the manufacturer, or the Administrator, determines that a change in design, construction, or operation is necessary to ensure safe operation, no person may operate a provisionally certificated civil aircraft until that change has been made and approved. Section 21.99 of this chapter applies to operations under this section.

(j) Each person operating a provisionally certificated civil aircraft—

(1) May carry in that aircraft only persons who have a proper interest in the operations allowed by this section or who are specifically authorized by both the manufacturer and the Administrator; and

(2) Shall advise each person carried that the aircraft is provisionally certificated.

(k) The Administrator may prescribe additional limitations or procedures that he considers necessary, including limitations on the number of persons who may be carried in the aircraft.

§ 91.319 Aircraft having experimental certificates: Operating limitations.

(a) No person may operate an aircraft that has an experimental certificate—

(1) For other than the purpose for which the certificate was issued; or

(2) Carrying persons or property for compensation or hire.

(b) No person may operate an aircraft that has an experimental certificate outside of an area assigned by the Administrator until it is shown that—

(1) The aircraft is controllable throughout its normal range of speeds and throughout all the maneuvers to be executed; and

(2) The aircraft has no hazardous operating characteristics or design features.

(c) Unless otherwise authorized by the Administrator is special operating limitations, no person may operate an aircraft that has an experimental certificate over a densely populated area or in a congested airway. The Administrator may issue special operating limitations for particular aircraft to permit takeoffs and landings to be conducted over a densely populated area or in a congested airway in accordance with terms and conditions specified in the authorization in the interest of safety in air commerce.

(d) Each person operating an aircraft that has an experimental certificate shall—

(1) Advise each person carried of the experimental nature of the aircraft;

(2) Operate under VFR, day only, unless otherwise specifically authorized by the Administrator; and

(3) Notify the control tower of the experimental nature of the aircraft when operating the aircraft into or out of airports with operating control towers.

(e) The Administrator may prescribe additional limitations that he considers necessary, including limitations on the persons that may be carried in the aircraft.

§ 91.321 Carriage of candidates in Federal elections.

(a) An aircraft operator, other than one operating an aircraft under the rules of Part 121, 125, 127, or 135 of this chapter, may receive payment for the carriage of a candidate in a Federal election, an agent of the candidate, or a person traveling on behalf of the candidate, if—

(1) That operator's primary business is not as an air carrier or commercial operator;

(2) The carriage is conducted under the rules of Part 91; and

(3) The payment for the carriage is required, and does not exceed the amount required to be paid, by regulations of the Federal Election Commission (11 CFR et seq.).

(b) For the purposes of this section, the terms "candidate" and "election" have the same meaning as that set forth in the regulations of the Federal Election Commission.

§§ 91.323–91.399 [Reserved]

Subpart E—Maintenance, Preventive Maintenance, and Alterations

§ 91.401 Applicability.

(a) This subpart prescribes rules governing the maintenance, preventive maintenance, and alterations of U.S.-registered civil aircraft operating within or without the United States.

(b) Sections 91.405, 91.409, 91.411, 91.413, 91.417, and 91.419 of this subpart do not apply to an aircraft maintained in accordance with a continuous airworthiness maintenance program as provided in Part 121, 127, or 135 of this chapter.

(c) Sections 91.405, 91.409, 91.411, and Subpart F of this part do not apply to an airplane inspected in accordance with Part 125 of this chapter.

§ 91.403 General.

(a) The owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with Part 39 of this chapter.

(b) No person may perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in this subpart and other applicable regulations, including Part 43.

(c) No person may operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals, and related procedures specified in that section or alternative inspection intervals and related procedures set forth in an operations specification approved by the Administrator under Part 121, 123, 127, or 135 or in accordance with an inspection program approved under § 91.537(e) have been complied with.

§ 91.405 Maintenance required.

Each owner or operator of an aircraft shall have that aircraft inspected as prescribed in Subpart F or § 91.409 of this part, as appropriate, and § 91.413 of this part and shall, between required inspections, have defects required as prescribed in Part 43 of this chapter. In addition, each owner or operator shall ensure that maintenance personnel make appropriate entries in the maintenance records indicating that the aircraft has been approved for return to service.

§ 91.407 Carrying persons other than crewmembers after repairs or alterations.

(a) No person may carry any persons (other than crewmembers) in an aircraft that has been repaired or altered in a manner that may have appreciably changed its flight characteristics or substantially affected its operation in flight until it has been approved for return to service in accordance with Part 43 and an appropriately rated pilot, with at least a private pilot's certificate, flies the aircraft, makes an operational check of the repaired or altered part, and logs the flight in the aircraft's records.

(b) Paragraph (a) of this section does not require that the aircraft be flown if ground tests or inspections, or both, show conclusively that the repair or alteration has not appreciably changed the flight characteristics of substantially affected the flight operation of the aircraft.

§ 91.409 Inspections.

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—

(1) An annual inspection in accordance with Part 43 of this chapter and has been approved for return to service by a person authorized by § 43.7 of this chapter; or

(2) An inspection for the issuance of an airworthiness certificate.

No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.

(b) Except as provided in paragraph (c) of this section, no person may operate an aircraft carrying any person (other than a crewmember) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless with the preceding 100 hours of time in service it has received an annual or 100-hour inspection and been approved for return to service in accordance with Part 43 of this chapter, or received an inspection for the issuance of an airworthiness certificate in accordance with Part 21 of this chapter. The 100-hour limitation may be exceeded by not more than 10 hours if necessary to reach a place at which the inspection can be done. The excess time, however, is included in computing the next 100 hours of time in service.

(c) Paragraphs (a) and (b) of this section do not apply to——

(1) Any aircraft for which its registered owner or operator complies with the progressive inspection requirements of § 91.411 and Part 43 of this chapter;

(2) Any aircraft that carries a special flight permit or a current experimental or provisional certificate;

(3) Any airplane operated by an air travel club that is inspected in accordance with Part 123 of this chapter and the operator's manual and operations specifications;

(4) An aircraft inspected in accordance with an approved aircraft inspection program under Part 135 of this chapter and so identified by the registration number in the operations specifications of the certificate holder having the approved inspection program; or

(5) Any large airplane or a turbojet or turbopropeller-powered multiengine airplane that is inspected in accordance with an inspection program authorized under Subpart F of this part.

§ 91.411 Progressive inspection.

(a) Each registered owner or operator of an aircraft desiring to use the progressive inspection must submit a written request to the Flight Standards district office having jurisdiction over the area in which the applicant is located and shall provide—

(1) A certificated mechanic holding an inspection authorization, a certificated airframe repair station, or the manufacturer of the aircraft to supervise or conduct the progressive inspection;

(2) A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail—

(i) An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;

(ii) An inspection schedule specifying the intervals in hours or days when routine and detailed inspections will be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en route and for changing an inspection interval because of service experience;

(iii) Sample routine and detailed inspection forms and instructions for their use; and

(iv) Sample reports and records and instructions for their use;

(3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(4) Appropriate current technical information for the aircraft.

(b) The frequency and detail of the progressive inspection shall provide for the complete inspection of the aircraft within each 12 calendar months and be consistent with the manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The progressive inspection schedule must ensure that the aircraft at all times will be airworthy and will conform to all applicable FAA aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data.

(c) If the progressive inspection is discontinued, the owner or operator shall notify immediately the local General Aviation District Office, in writing, of the discontinuance. After the discontinuance, the first annual inspection under § 91.409(a) is due within 12 calendar months after the last complete inspection of the aircraft under the progressive inspection. The 100-hour inspection under § 91.409(b) is due within 100 hours after that complete inspection. A complete inspection of the aircraft, for the purpose of determining when the annual and 100-hour inspections are due, will require a detailed inspection of the aircraft and all its components in accordance with the progressive inspection. A routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

§ 91.413 Altimeter system tests and inspections.

(a) No person may operate an airplane in controlled airspace under IFR unless, within the preceding 24 calendar months, each static pressure system and each altimeter instrument has been tested and inspected and found to comply with Appendix E of Part 43. The static pressure system and altimeter instrument tests and inspections may be conducted by—

(1) The manufacturer of the airplane on which the tests and inspections are to be performed;

(2) A certificated repair station properly equipped to perform these functions and holding—

(i) An instrument rating, Class I;

(ii) A limited instrument rating appropriate to the make and model altimeter to be tested;

(iii) A limited rating appropriate to the test to be performed;

(iv) An airframe rating appropriate to the airplane to be tested; or

(v) A limited rating for a manufacturer issued for the altimeter in accordance with § 145.101(b)(4) of this chapter; or

(3) A certificated mechanic with an airframe rating (static pressure system tests and inspections only).

(b) No person may operate an airplane in controlled airspace under IFR at an altitude above the maximum altitude to which an altimeter of that airplane has been tested.

§ 91.415 ATC transponder tests and inspections.

(a) No person may use an ATC transponder that is specified in §§ 91.211(a), 121.345(c), 127.123(b), or 135.143(c) of this chapter, unless, within the preceding 24 calendar months, that ATC transponder has been tested and inspected and found to comply with Appendix F of Part 43 of this chapter.

(b) The tests and inspections specified in paragraph (a) of this section may be conducted by—

(1) A certificated repair station properly equipped to perform those functions and holding—

(i) A radio rating, Class III;

(ii) A limited radio rating appropriate to the make and model transponder to be tested;

(iii) A limited rating appropriate to the test to be performed; or

(iv) A limited rating for a manufacturer issued for the transponder in accordance with § 145.101(b)(4) of this chapter; or

(2) A certificate holder authorized to perform maintenance in accordance with § 121.379 or § 127.140 of this chapter; or

(3) The manufacturer of the aircraft on which the transponder to be tested is installed, if the transponder was installed by that manufacturer.

§ 91.417 Maintenance records.

(a) Except for work performed in accordance with §§ 91.413 and 91.415, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:

(1) Records of the maintenance and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—

(i) A description (or reference to data acceptable to the Administrator) of the work performed;

(ii) The date of completion of the work performed; and

(iii) The signature and certificate number of the person approving the aircraft for return to service.

(2) Records containing the following information:

(i) The total time in service of the airframe, each engine, and each propeller.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The identification of the current inspection status of the aircraft, including the times since the last inspections required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airwothiness directives (AD) including, for each, the method of compliance, the AD number, and revision date. If the AD involves recurring action, the time and date when the next action is required.

(vi) A list of current major alterations to each airframe, engine, propeller, rotor, and appliance.

(b) The owner and operator shall retain the following records for the periods prescribed:

(1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after work is performed.

(2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(3) A list of defects furnished to a registered owner or operator under § 43.9 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.

(c) The owner or operator shall make all maintenance records required to be kept by this section available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB).

§ 91.419 Transfer of maintenance records.

Any owner or operator who sells a U.S.-registered aircraft shall transfer to the purchaser, at the time of sale, the following records of that aircraft, in plain language form or in coded form at the election of the purchaser, if the coded form provides for the preservation and retrieval of information in a manner acceptable to the Administrator:

(a) The records specified in § 91.417(a)(2).

(b) The records specified in § 91.417(a)(1) which are not included in the records covered by paragraph (a) of this section, except that the purchaser may permit the seller to keep physical custody of such records. However, custody of records by the seller does not relieve the purchaser of his responsibility under § 91.417(c) to make the records available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB).

§ 91.421 Rebuilt engine maintenance records.

(a) The owner or operator may use a new maintenance record, without previous operating history, for an aircraft engine rebuilt by the manufacturer or by an agency approved by the manufacturer.

(b) Each manufacturer or agency that grants zero time to an engine rebuilt by it shall enter in the new record—

(1) A signed statement of the date the engine was rebuilt;

(2) Each change made as required by airworthiness directives; and

(3) Each change made in compliance with manufacturer's service bulletins, if the entry is specifically requested in that bulletin.

(c) For the purposes of this section, a rebuilt engine is a used engine that has been completely disassembled, inspected, repaired as necessary, reassembled, tested, and approved in the same manner and to the same tolerances and limits as a new engine with either new or used parts. However, all parts used in it must conform to the production drawing tolerances and limits for new parts or be of approved oversized or undersized dimensions for a new engine.

§§ 91.423–91.499 [Reserved].

SUBPART F—LARGE AND TURBINE-POWERED MULTIENGINE AIRPLANES

§ 91.501 Applicability.

(a) Sections 91.501 through 91.535 prescribe operating rules, in addition to those prescribed in other subparts of this part, governing the operation of large and of turbojet-powered multiengine civil airplanes of U.S. registry. The operating rules in this subpart do not apply to those airplanes when they are required to be operated under part 121, 123, 125, 129, 135, or 137 of this chapter. Sections 91.537 and 91.539 prescribe an inspection program for large and for turbine-powered (turbojet and turboprop) multiengine airplanes of U.S. registry when they are operated under this subpart or Part 129 or 137 and for small turbine-powered multiengine airplanes operated under Part 135 of this chapter.

(b) Operations that may be conducted under the rules in this subpart instead of those in Parts 121, 123, 125, 129, 135, and 137 when common carriage is not involved include—

(1) Ferry or training flights;

(2) Aerial work operations such as aerial photography or survey, or pipeline patrol, but not including firefighting operations;

(3) Flights for the demonstration of an airplane to prospective customers when no charge is made except for those specified in paragraph (d) of this section;

(4) Flights conducted by the operator of an airplane for his personal transportation or the transportation of his guests when no charge, assessment, or fee is made for the transportation;

(5) The carriage of officials, employees, guests, and property of a company on an airplane operated by that company, or the parent or a subsidiary of that company or a subsidiary of the parent, when the carriage is within the scope of, and incidental to, the business of the company (other than transportation by air) and no charge, assessment, or fee is made for the carriage in excess of the cost of owning, operating, and maintanining the airplane, except that no charge of any kind may be made for the carriage of a guest of a company when the carriage is not within the scope of, and incidental to, the business of that company;

(6) The carriage of company officials, employees, and guests of the company on an airplane operated under a time-sharing, interchange, or joint ownership agreement as defined in paragraph (c) of this section;

(7) The carriage of property (other than mail) on an airplane operated by a person in the furtherance of a business or employment (other than transportation by air) when the carriage is within the scope of, and incidental to, that business or employment and no charge, assessment, or fee is made for the carriage other than those specified in paragraph (d) of this section;

(8) The carriage on an airplane of an athletic team, sports group, choral group, or similar group having a common purpose or objective when there is no charge, assessment, or fee of any kind made by any person for that carriage; and

(9) The carriage of persons on an airplane operated by a person in the furtherance of a business other than transportation by air for the purpose of selling to them land, goods, or property, including franchises or distributorships, when the carriage is within the scope of, and incidental to, that business and no charge, assessment, or fee is made for that carriage.

(c) As used in this section—

(1) A "time-sharing agreement" means an arrangement whereby a person leases his airplane with a flightcrew to another person and no charge is made for the flights conducted under that arrangement other than those specified in paragraph (d) of this section;

(2) An "interchange agreement" means an arrangement whereby a person leases his airplane to another person in exchange for equal time, when needed, on the other person's airplane and no charge, assessment, or fee is made, except that a charge may be made not to exceed the difference between the cost of owning, operating, and maintaining the two airplanes; and

(3) A "joint ownership agreement" means an arrangement whereby one of the registered joint owners of an airplane employs and furnishes the flightcrew for that airplane and each of the registered joint owners pays a share of the charges specified in the agreement.

(d) The following may be charged, as expenses of a specific flight, for transportation as authorized by subparagraphs (b)(3) and (7) and (c)(1) of this section:

(1) Fuel, oil, lubricants, and other additives.

(2) Travel expenses of the crew, including food, lodging, and ground transportation.

(3) Hangar and tie-down costs away from the aircraft's base of operations.

(4) Insurance obtained for the specific flight.

(5) Landing fees, airport taxes, and similar assessments.

(6) Customs, foreign permit, and similar fees directly related to the flight.

(7) In-flight food and beverages.

(8) Passenger ground transportation.

(9) Flight planning and weather contract services.

(10) An additional charge equal to 100 percent of the expenses listed in paragraph (d)(1) of this section.

§ 91.503 Flying equipment and operating information.

(a) The pilot in command of an airplane shall ensure that the following flying equipment and aeronautical charts and data, in current and appropriate form, are accessible for each flight at the pilot station of the airplane:

(1) A flashlight having at least two size "D" cells, or the equivalent, that is in good working order.

(2) A cockpit checklist containing the procedures required by paragraph (b) of this section.

(3) Pertinent aeronautical charts.

(4) For IFR, VFR over-the-top, or night operations, each pertinent navigational en route, terminal area, and approach and letdown chart.

(5) In the case of multiengine airplanes, one-engine inoperative climb performance data.

(b) Each cockpit checklist must contain the following procedures and shall be used by the flight crewmembers when operating the airplane:

(1) Before starting engines.

(2) Before takeoff.

(3) Cruise.

(4) Before landing.

(5) After landing.

(6) Stopping engines.

(7) Emergencies.

(c) Each emergency cockpit checklist procedure required by paragraph (b)(7) of this section must contain the following procedures, as appropriate:

(1) Emergency operation of fuel, hydraulic, electrical, and mechanical systems.

(2) Emergency operation of instruments and controls.

(3) Engine inoperative procedures.

(4) Any other procedures necessary for safety.

(d) The equipment, charts, and data prescribed in this section shall be used by the pilot in command and other members of the flightcrew, when pertinent.

§ 91.505 Familiarity with operating limitations and emergency equipment.

(a) Each pilot in command of an airplane shall, before beginning a flight, familiarize himself with the airplane flight manual for that airplane, if one is required, and with any placards, listings, instrument markings, or any combination thereof, containing each operating limitation prescribed for that airplane by the Administrator, including those specified in § 91.9(b).

(b) Each required member of the crew shall, before beginning a flight, familiarize himself with the emergency equipment installed on the airplane to which he is assigned and with the procedures to be followed for the use of that equipment in an emergency situation.

§ 91.507 Equipment requirements: Over-the-top or night VFR operations.

No operson may operate an airplane over-the-top or at night under VFR unless that airplane is equipped with the instruments and equipment required for IFR operations under § 91.205(d) and one electric landing light for night operations. Each required instrument and item of equipment must be in operable condition.

§ 91.509 Survival equipment for overwater operations.

(a) No person may take off an airplane for a flight over water more

than 50 nautical miles from the nearest shoreline unless that airplane is equipped with a life preserver or an approved flotation means for each occupant of the airplane.

(b) No person may take off an airplane for a flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shoreline, unless it has on board the following survival equipment:

(1) A life preserver, equipped with an approved survivor locator light, for each occupant of the airplane.

(2) Enough liferafts (each equipped with an approved survival locator light) of a rated capacity and buoyancy to accommodate the occupants of the airplane.

(3) At least one pyrotechnic signaling device for each liferaft.

(4) One self-buoyant, water-resistant, portable emergency radio signaling device that is capable of transmission on the appropriate emergency frequency or frequencies and not dependent upon the airplane power supply.

(5) A lifeline stored in accordance with § 25.1411(g) of this chapter.

(c) The required liferafts, life preservers, and signaling devices must be installed in conspicuously marked locations and easily accessible in the event of a ditching without appreciable time for preparatory procedures.

(d) A survival kit, appropriately equipped for the route to be flown, must be attached to each required liferaft.

§ 91.511 Radio equipment for overwater operations.

(a) Except as provided in paragraphs (c) and (d) of this section, no person may take off an airplane for a flight over water more than 30 minutes flying time or 100 nautical miles from the nearest shoreline unless it has at least the following operable radio communication and navigational equipment appropriate to the facilities to be used and able to transmit to, and receive from, at any place on the route, at least one surface facility:

(1) Two transmitters.

(2) Two microphones.

(3) Two headsets or one headset and one speaker.

(4) Two independent receivers for navigation.

(5) Two independent receivers for communications.

However, a receiver that can receive both communications and navigational signals may be used in place of a separate communications receiver and a separate navigational signal receiver.

(b) For the purpose of paragraphs (a)(4) and (5) of this section, a receiver is independent if the function of any part of it does not depend on the functioning of any part of another receiver.

(c) Notwithstanding the provisions of paragraph (a) of this section, a person may operate an airplane on which no passengers are carried from a place where repairs or replacement cannot be made to a place where they can be made, if not more than one of each of the dual items of radio communication and navigational equipment specified in subparagraphs (1) through (5) of paragraph (a) of this section malfunctions or becomes inoperative.

(d) Notwithstanding the provisions of paragraph (a) of this section, when both VHR and HF communications equipment are required for the route and the airplane has two VHF transmitters and two VHF receivers for communications, only one HF transmitter and one HF receiver is required for communications.

§ 91.513 Emergency equipment.

(a) No person may operate an airplane unless it is equipped with the emergency equipment listed in this section.

(b) Each item of equipment—

(1) Must be inspected in accordance with § 91.537 to ensure its continued serviceability and immediate readiness for its intended purposes;

(2) Must be readily accessible to the crew;

(3) Must clearly indicate its method of operation; and

(4) When carried in a compartment or container, must have that compartment or container marked as to contents and date of last inspection.

(c) Hand fire extinguishers must be provided for use in crew, passenger, and cargo compartments in accordance with the following:

(1) The type and quantity of extinguishing agent must be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used.

(2) At least one hand fire extinguisher must be provided and located on or near the flight deck in a place that is readily accessible to the flightcrew.

(3) At least one hand fire extinguisher must be conveniently located in the passenger compartment of each airplane accommodating more than 6 but less than 31 passengers, and at least two hand fire extinguishers must be conveniently located in the passenger compartment of each airplane accommodating more than 30 passengers.

(4) Hand fire extinguishers must be installed and secured in such a manner that they will not interfere with the safe operation of the airplane of adversely affect the safety of the crew and passengers. They must be readily accessible and, unless the locations of the fire extinguishers are obvious, their stowage provisions must be properly identified.

(d) First aid kits for treatment of injuries likely to occur in flight or in minor accidents must be provided.

(e) Each airplane accommodating more than 19 passengers must be equipped with a crash axe.

(f) Each passenger-carrying airplane must have a portable battery-powered megaphone or megaphones readily accessible to the crewmembers assigned to direct emergency evacuation, installed as follows:

(1) One megaphone on each airplane with a seating capacity of more than 60 but less than 100 passengers, at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat. However, the Administrator may grant a deviation from the requirements of this subparagraph if he finds that a different location would be more useful for evacuation of persons during an emergency.

(2) Two megaphones in the passenger cabin on each airplane with a seating capacity of more than 99 passengers, one installed at the forward end and the other at the most rearward location where it would be readily accessible to a normal flight attendant seat.

§ 91.515 Flight altitude rules.

(a) Notwithstanding § 91.119, and except as provided in paragraph (b) of this section, no person may operate an airplane under VFR at less than—

(1) One thousand feet above the surface, or 1,000 feet from any mountain, hill, or other obstruction to flight, for day operations; and

(2) The altitudes prescribed in § 91.177, for night operations.

(b) This section does not apply—

(1) During takeoff or landing;

(2) When a different altitude is authorized by a waiver to this section under Subpart I of this part; or

(3) When a flight is conducted under the special VFR weather minimums of § 91.157 with an appropriate clearance from ATC.

§ 91.517 Smoking and safety belt signs.

(a) Except as provided in paragraph (b) of this section, no person may operate an airplane carrying passengers unless it is equipped with signs that are visible to passengers and cabin attendants to notify them when smoking is prohibited and when safety belts should be fastened. The signs must be so constructed that the crew can turn them

on and off. They must be turned on for each takeoff and each landing and when otherwise considered to be necessary by the pilot in command.

(b) The pilot in command of an airplane that is not equipped as provided in paragraph (a) of this section shall ensure that the passengers are orally notified each time that it is necessary to fasten their safety belts and when smoking is prohibited.

§ 91.519 Passenger briefing.

(a) Before each takeoff the pilot in command of an airplane carrying passengers shall ensure that all passengers have been orally briefed on—

(1) Smoking;

(2) Use of safety belts;

(3) Location and means for opening the passenger entry door and emergency exits;

(4) Location of survival equipment;

(5) Ditching procedures and the use of flotation equipment required under § 91.509 for a flight over water; and

(6) The normal and emergency use of oxygen equipment installed on the airplane.

(b) The oral briefing required by paragraph (a) of this section shall be given by the pilot in command or a member of the crew, but need not be given when the pilot in command determines that the passengers are familiar with the contents of the briefing. It may be supplemented by printed cards for the use of each passenger containing—

(1) A diagram of, and methods of operating, the emergency exits; and

(2) Other instructions necessary for use of emergency equipment.

Each card used under this paragraph must be carried in convenient locations on the airplane for the use of each passenger and must contain information that is pertinent only to the type and model airplane on which it is used.

§ 91.521 Shoulder harness.

(a) Except as provided in paragraph (b) of this section, no person may operate a transport category airplane unless it is equipped with a combined safety belt and shoulder harness that meets the applicable requirements specified in § 25.785 of this chapter at each required flight attendant seat in the passenger compartment and at each flight deck station, except that—

(1) Shoulder harnesses and combined safety belt and shoulder harnesses that were approved and installed before March 6, 1980, may continue to be used; and

(2) Safety belt and shoulder harness restraint systems may be designed to the inertia load factors established under the certification basis of the airplane.

(b) An operator may obtain an extension of the compliance date specified in paragraph (a) of this section, but not beyond March 6, 1982, from the Director of Flight Operations if the operator—

(1) Shows that, due to circumstances beyond its control, it cannot comply by the specified compliance date; and

(2) Submits, by the specified compliance date, a schedule for compliance, acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

§ 91.523 Carry-on baggage.

No pilot in command of an airplane having a seating capacity of more than 19 passengers may permit a passenger to stow his baggage aboard that airplane except—

(a) In a suitable baggage or cargo storage compartment, or as provided in § 91.525; or

(b) Under a passenger seat in such a way that it will not slide forward under crash impacts severe enough to induce the ultimate inertia forces specifed in § 25.561(b)(3) of this chapter, or the requirements of the regulations under which the airplane was type certificated. Restraining devices must also limit sideward motion of under-seat baggage and be designed to withstand crash impacts severe enough to induce sideward forces specified in § 25.561(b)(3) of this chapter.

§ 91.525 Carriage of cargo.

(a) No pilot in command may permit cargo to be carried in any airplane unless—

(1) It is carried in an approved cargo rack, bin, or compartment installed in the airplane;

(2) It is secured by means approved by the Administrator; or

(3) It is carried in accordance with each of the following:

(i) It is properly secured by a safety belt or other tiedown having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.

(ii) It is packaged or covered to avoid possible injury to passengers.

(iii) It does not impose any load on seats or on the floor structure that exceeds the load limitation for those components.

(iv) It is not located in a position that restricts the access to or use of any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment.

(v) It is not carried directly above seated passengers.

(b) When cargo is carried in cargo compartments that are designed to require the physical entry of a crewmember to extinguish any fire that may occur during flight, the cargo must be loaded so as to allow a crewmember to effectively reach all parts of the compartment with the contents of a hand fire extinguisher.

§ 91.527 Transport category airplane weight limitations.

No person may take off a transport category airplane except in accordance with the weight limitations prescribed for that airplane in § 91.603 of this part.

§ 91.529 Operating in icing conditions.

(a) No pilot may take off an airplane that has—

(1) Frost, snow, or ice adhering to any propeller, windshield, or powerplant installation or to an airspeed, altimeter, rate of climb, or flight attitude instrument system;

(2) Snow or ice adhering to the wings, or stabilizing or control surfaces; or

(3) Any frost adhering to the wings, or stabilizing or control surfaces, unless that frost has been polished to make it smooth.

(b) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly—

(1) Under IFR into known or forecast moderate icing conditions; or

(2) Under VFR into known light or moderate icing conditions unless the aircraft has functioning de-icing or anti-icing equipment protecting each propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system.

(c) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly an airplane into known or forecast severe icing conditions.

(d) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing conditions that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraph (b) and (c) of this section based on forecast conditions do not apply.

§ 91.531 Flight engineer requirements.

(a) No person may operate the following airplanes without a flight crewmember holding a current flight engineer certificate:

(1) An airplane for which a type certificate was issued before January 2, 1964, having a maximum certificated takeoff weight or more than 80,000 pounds.

(2) An airplane type certificated after January 1, 1964, for which a flight engineer is required by the type certification requirements.

(b) No person may serve as a required flight engineer on an airplane unless, within the preceding 6 calendar months, he has had at least 50 hours of flight time as a flight engineer on that type airplane, or the Administrator has checked him on that type airplane and determined that he is familiar and competent with all essential current information and operating procedures.

§ 91.533 Second-in-command requirements.

(a) Except as provided in paragraph (b) of this section, no person may operate the following airplanes without a pilot who is designated as second in command of that airplane:

(1) A large airplane.

(2) A turbojet-powered multiengine airplane for which two pilots are required under the type certification requirements for that airplane.

(b) The Administrator may issue a letter of authorization for the operation of an airplane without compliance with the requirements of paragraph (a) of this section if that airplane is designed for and type certificated with only one pilot station. The authorization contains any conditions that the Administrator finds necessary for safe operation.

(c) No person may designate a pilot to serve as second in command, nor may any pilot serve as second in command, of an airplane required under this section to have two pilots unless that pilot meets the qualifications for second in command prescribed in § 61.55 of this chapter.

§ 91.535 Flight attendant requirements.

(a) No person may operate an airplane unless at least the following number of flight attendants are on board the airplane:

(1) For airplanes having more than 19 but less than 51 passengers on board, one flight attendant.

(2) For airplanes having more than 50 but less than 101 passengers on board, two flight attendants.

(3) For airplanes having more than 100 passengers on board, two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passengers above 100.

(b) No person may serve as a flight attendant on an airplane when required by paragraph (a) of this section unless that person has demonstrated to the pilot in command that he is familiar with the necessary functions to be performed in an emergency or a situation requiring emergency evacuation and is capable of using the emergency equipment installed on that airplane for the performance of those functions.

§ 91.537 Inspection program.

(a) No person may operate a large airplane or a turbojet or turbopropeller-powered multiengine airplane unless the replacement times for life-limited parts specified in the aircraft data sheets or other documents approved by the Administrator are complied with, and the airplane, including the airframe, engines, propellers, appliances, survival equipment, and emergency equipment, is inspected in accordance with an inspection program selected under the provisions of this section.

(b) The registered owner or operator of each airplane governed by this subpart must select and must use one of the following programs for the inspection of that airplane:

(1) A continuous airworthiness inspection program that is a part of a continuous airworthiness maintenance program currently in use by a person holding an air carrier or commercial operator certificate under Part 121 of this chapter.

(2) An approved aircraft inspection program currently in use by a person holding an ATCO certificate under Part 135 of this chapter.

(3) An approved continuous inspection program currently in use by a person certificated as an Air Travel Club under Part 123 of this chapter.

(4) A current inspection program recommended by the manufacturer.

(5) Any other inspection program established by the registered owner or operator of that airplane and approved by the Administrator under paragraph (e) of this section.

(c) Notice of the inspection program selected shall be sent to the local FAA district office having jurisdiction over the area in which the airplane is based. The notice must be in writing and include—

(1) Make, model, and serial number of the airplane;

(2) Registration number of the airplane;

(3) The inspection program selected under paragraph (b) of this section; and

(4) The name and address of the person responsible for scheduling the inspections required under the selected inspection program.

(d) The registered owner or operator may not change the inspection program for an airplane unless he has given notice thereof as provided in paragraph (c) of this section and the new program has been approved by the FAA, where appropriate.

(e) Each registered owner or operator of an airplane desiring to establish an approved inspection program under paragraph (b)(5) of this section must submit the program for approval to the local FAA district office having jurisdiction over the area in which the airplane is based. The program must include the following information:

(1) Instructions and procedures for the conduct of inspections for the particular make and model airplane, including necessary tests and checks. The instructions and procedures must set forth in detail the parts and areas of the airframe, engines, propellers, and appliances, including emergency equipment, required to be inspected.

(2) A schedule for the performance of the inspections that must be performed under the program expressed in terms of the time in service, calendar time, number of system operations, or any combination of these.

§ 91.539 Availability of inspection program.

Each owner or operator of an airplane shall make a copy of the inspection program selected under § 91.537 available to—

(a) The person responsible for the scheduling of the inspections;

(b) Any person performing inspections on the airplane; and

(c) Upon request, to the Administrator.

§§ 91.541–91.599 [Reserved].

Subpart G—Additional Equipment and Operating Requirements for Large and Transport Category Aircraft

§ 91.601 Applicability.

This subpart prescribes equipment and operating rule requirements, in addition to those prescribed in other subparts of this part and other parts governing the operation of large transport category aircraft.

§ 91.603 Aural speed warning device.

No person may operate a transport category airplane in air commerce unless that airplane is equipped with an aural speed warning device that complies with § 25.1303(c)(1).

§ 91.605 Transport category civil airplane weight limitations.

(a) No person may take off any transport category airplane (other than a turbine-engine-powered airplane certificated after September 30, 1958) unless—

(1) The takeoff weight does not exceed the authorized maximum takeoff weight for the elevation of the airport of takeoff;

(2) The elevation of the airport of takeoff is within the altitude range for which maximum takeoff weights have been determined;

(3) Normal consumption of fuel and oil in flight to the airport of intended landing will leave a weight on arrival not in excess of the authorized maximum landing weight for the elevation of that airport; and

(4) The elevations of the airport of intended landing and of all specified alternate airports are within the altitude range for which the maximum landing weights have been determined.

(b) No person may operate a turbine-engine-powered transport category airplane certificated after September 30, 1958, contrary to the airplane flight manual, nor take off that airplane unless—

(1) The takeoff weight does not exceed the takeoff weight specified in the airplane flight manual for the elevation of the airport and for the ambient temperature existing at the time of takeoff;

(2) Normal consumption of fuel and oil in flight to the airport of intended landing and to the alternate airports will leave a weight on arrival not in excess of the landing weight specified in the airplane flight manual for the elevation of each of the airports involved and for the ambient temperatures expected at the time of landing;

(3) The takeoff weight does not exceed the weight shown in the airplane flight manual to correspond with the minimum distances required for takeoff considering the elevation of the airport, the runway to be used, the effective runway gradient, and the ambient temperature and wind component existing at the time of takeoff; and

(4) Where the takeoff distance includes a clearway, the clearway distance is not greater than one-half of—

(i) The takeoff run, in the case of airplanes certificated after September 30, 1958, and before August 30, 1959; or

(ii) The runway length, in the case of airplanes certificated after August 29, 1959.

(c) No person may take off a turbine-engine-powered transport category airplane certificated after August 29, 1959, unless, in addition to the requirements of paragraph (b) of this section—

(1) The accelerate-stop distance is no greater than the length of the runway plus the length of the stopway (if present);

(2) The takeoff distance is no greater than the length of the runway plus the length of the clearway (if present); and

(3) The takeoff run is no greater than the length of the runway.

§ 91.607 Transport category airplanes—Pitot heat indication systems.

(a) Except as provided in paragraphs (b) and (c) of this section, after April 12, 1981, no person may operate a transport category airplane equipped with a flight instrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with § 25.1326 of this chapter in effect on April 12, 1978.

(b) An operator may obtain an extension of the April 12, 1981, compliance date specified in paragraph (a) of this section, but not beyond April 12, 1983, from the Director of Flight Operations if the operator—

(1) Shows that due to circumstances beyond its control it cannot comply by the specified compliance date; and

(2) Submits, by the specified compliance date, a schedule for compliance, acceptable to the Director, indicating that compliance will be achieved at the earliest practicable date.

(c) Notwithstanding the provisions of paragraph (a) of this section, the compliance date of April 12, 1981, is suspended for operators of transport category airplanes when conducting operations that are not conducted under Part 121, 123, 125, or 135 of the Federal Aviation Regulations.

§ 91.609 Emergency exits for airplanes carrying passengers for hire.

(a) Notwithstanding any other provision of this chapter, no person may operate a large airplane (type certificated under the Civil Air Regulations effective before April 9, 1957) in passenger-carrying operations for hire, with more than the number of occupants—

(1) Allowed under Civil Air Regulations § 4b.362(a), (b), and (c) as in effect on December 20, 1951; or

(2) Approved under Special Civil Air Regulations SR–387, SR–389, SR–389A, or SR–389B, or under this section as in effect.

However, an airplane type listed in the following table may be operated with up to the listed number of occupants (including crewmembers) and the corresponding number of exits (including emergency exits and doors) approved for the emergency exit of passengers or with an occupant-exit configuration approved under paragraph (b) or (c) of this section.

Airplane type	Maximum number of occupants including crewmembers	Corresponding number of exits authorized for passenger use
B–307	61	4
B–377	96	9
C–46	67	4
CV–240	53	6
CV–340 and CV–440	53	6
DC–3	35	4
DC–3 (Super)	39	5
DC–4	86	5
DC–6	87	7
DC–6B	112	11
L–18	17	3
L–049, L–649, L–749	87	7
L–1049 series	96	9
M–202	53	6
M–404	53	7
Viscount 700 series	53	7

(b) Occupants in addition to those authorized under paragraph (a) of this section may be carried as follows:

(1) For each additional floor-level exit at least 24 inches wide by 48 inches high, with an unobstructed 20-inch wide access aisleway between the exit and the main passenger aisle, 12 additional occupants.

(2) For each additional window exit located over a wing that meets the requirements of the airworthiness standards under which the airplane was type certificated or that is large enough to inscribe an ellipse 19 x 26 inches, 8 additional occupants.

(3) For each additional window exit that is not located over a wing but that otherwise complies with subparagraph (2) of this paragraph, 5 additional occupants.

(4) For each airplane having a ratio (as computed from the table in paragraph (a) of this section) of maximum number of occupants to number of exits greater than 14:1, and for each airplane that does not have at least one full-size, door-type exit in the side of the fuselage in the rear part of the cabin, the first additional exit must be a floor-level exit that complies with subparagraph (1) of this paragraph and must be located in the rear part of the cabin on the opposite side of the fuselage from the main entrance door.

However, no person may operate an airplane under this section carrying more than 115 occupants unless there is such an exit on each side of the fuselage in the rear part of the cabin.

(c) No person may eliminate any approved exit except in accordance with the following:

(1) The previously authorized maximum number of occupants must be reduced by the same number of additional occupants authorized for that exit under this section.

(2) Exits must be eliminated in accordance with the following priority schedule: First, non-over-wing window exits; second, over-wing-window exits; third, floor-level exits located in the forward part of the cabin; and fourth, floor-level exits located in the rear of the cabin.

(3) At least one exit must be retained on each side of the fuselage regardless of the number of occupants.

(4) No person may remove any exit that would result in a ratio of maximum number of occupants to approved exits greater than 14:1.

(d) This section does not relieve any person operating under Part 121 of this chapter from complying with § 121.291.

§ 91.611 Flight recorders and cockpit voice recorders.

No holder of an air carrier or commercial operator certificate may conduct any operation under this part with an aircraft listed in his operations specifications or current list of aircraft used in air transportation unless that aircraft complies with any applicable flight recorder and cockpit voice recorder requirements of the part under which its certificate is issued, except that he may—

(a) Ferry an aircraft with an inoperative flight recorder or cockpit voice recorder from a place where repair or replacement cannot be made to a place where they can be made;

(b) Continue a flight as originally planned, if the flight recorder or cockpit voice recorder becomes inoperative after the aircraft has taken off;

(c) Conduct an airworthiness flight test during which the flight recorder or cockpit voice recorder is turned off to test it or to test any communications or electrical equipment installed in the aircraft; or

(d) Ferry a newly acquired aircraft from the place where possession of it was taken to a place where the flight recorder or cockpit voice recorder is to be installed.

§ 91.613 Authorization for ferry flight with one engine inoperative by air carriers and commercial operators of large aircraft.

(a) *General.* An air carrier or commercial operator of large aircraft may conduct a ferry flight of a four-engine airplane or a turbine-engine-powered airplane equipped with three engines, with one engine inoperative, to a base for the purpose of repairing that engine subject to the following:

(1) The airplane model has been test flown and found satisfactory for safe flight in accordance with paragraph (b) or (c) of this section, as appropriate. However, each operator who before November 19, 1966, has shown that a model of airplane with an engine inoperative is satisfactory for safe flight by a test flight conducted in accordance with performance data contained in the applicable airplane flight manual under § 91.613(a)(2) need not repeat the test flight for that model.

(2) The approved airplane flight manual contains the following performance data and the flight is conducted in accordance with that data:

(i) Maximum weight.

(ii) Center of gravity limits.

(iii) Configuration of the inoperative propeller (if applicable).

(iv) Runway length for takeoff (including temperature accountability).

(v) Altitude range.

(vi) Certificate limitations.

(vii) Ranges of operational limits.

(viii) Performance information.

(ix) Operating procedures.

(3) The operator's manual contains operating procedures for the safe operation of the airplne, including specific requirements for—

(i) A limitation that the operating weight on any ferry flight must be the minimum necessary therefore with the necessary reserve fuel load;

(ii) A limitation that takeoffs must be made from dry runways unless, based on a showing of actual operating takeoff techniques on wet runways with one engine inoperative, takeoffs with full controllability from wet runways have been approved for the specific model aircraft and included in the airplane flight manual;

(iii) Operations from airports where the runways may require a takeoff or approach over populated areas; and

(iv) Inspection procedures for determining the operating conditions of the operative engines.

(4) No person may take off an airplane under this section if—

(i) The initial climb is over thickly populated areas; or

(ii) Weather conditions at the takeoff or destination airport are less than those required for VFR flight.

(5) No air carrier or commercial operator of large aircraft may carry any persons other than required flight crewmembers on board the airplane during the flight.

(6) No air carrier or commercial operator of large aircraft may use a flight crewmember unless he is thoroughly familiar with the operating procedures for one-engine-inoperative ferry flights listed in its manual and the limitations and performance information listed in the airplane flight manual.

(b) *Flight tests: reciprocating-engine-powered airplanes.* The airplane performance of a reciprocating-engine-powered airplane with one engine inoperative must be determined by flight test as follows:

(1) A speed not less than $1.3V_{s1}$ must be chosen at which the airplane may be controlled satisfactorily in a climb with the critical engine inoperative (with its propeller removed or in a configuration desired by the operator) and with all other engines operating at the maximum power determined in paragraph (b)(3) of this section.

(2) The distance required to accelerate to the speed listed in subparagraph (1) of this paragraph and to climb to 50 feet must be determined with—

(i) The landing gear extended;

(ii) The critical engine inoperative and its propeller removed or in a configuration desired by the operator; and

(iii) The other engines operating at not more than the maximum power established under paragraph (b)(3) of this section.

(3) The takeoff, flight, and landing procedures, such as the approximate trim settings, method of power application, maximum power, and speed, must be established.

(4) The performance must be determined at a maximum weight not greater than the weight that allows a rate of climb of at least 400 feet a minute in the enroute configuration set forth in § 25.67(d) of this chapter at an altitude of 5,000 feet.

(5) The performance must be determined using temperature accountability for the takeoff field length, computed in accordance with § 25.61 of this chapter.

(c) *Flight test: turbine-engine-powered airplanes.* The airplane performance of a turbine-engine-powered airplane with one engine inoperative must be determined by flight tests, including at least three takeoff tests, in accordance with the following:

(1) Takeoff speeds V_2 and V_R not less than the corresponding speeds under which the airplane was type certificated under § 25.107 of this chapter, must be chosen at which the airplane may be controlled satisfactorily with the critical engine inoperative (with its propeller removed or in a configuration desired by the operator, if applicable) and with all other engines operating at not more than

the power selected for type certification, as set forth in § 25.101 of this chapter.

(2) The minimum takeoff field length must be the horizontal distance required to accelerate and climb to the 35-foot height at V_2 speed (including any additional speed increment obtained in the tests) multiplied by 115 percent and determined with—

(i) The landing gear extended;

(ii) The critical engine inoperative and its propeller removed or in a configuration desired by the operator (if applicable); and

(iii) The other engines operating at not more than the power selected for type certification as set forth in § 25.101 of this chapter.

(3) The takeoff, flight, and landing procedures such as the approximate trim settings, method of power application, maximum power, and speed must be established. The airplane must be satisfactorily controllable during the entire takeoff run when operated according to these procedures.

(4) The performance must be determined at a maximum weight not greater than the weight determined under § 25.121(c) of this chapter but with—

(i) The actual steady gradient of the final takeoff climb requirement not less than 1.2 percent at the end of the takeoff path with two critical engines inoperative; and

(ii) The climb speed not less than the two-engine-inoperative trim speed for the actual steady gradient of the final takeoff climb prescribed by paragraph (c)(4)(i) of this section.

(5) The airplane must be satisfactorily controllable in a climb with two critical engines inoperative. Climb performance may be shown by calculations based on, and equal in accuracy to, the results of testing.

(6) The performance must be determined using temperature accountability for takeoff distance and final takeoff climb computed in accordance with § 25.101 of this chapter.

For the purposes of paragraphs (c) (4) and (5) of this section, "two critical engines" means two adjacent engines on one side of an airplane with four engines, and the center engine and one outboard engine on an airplane with three engines.

§ 91.615 Materials for compartment interiors.

No person may operate an airplane that conforms to an amended or supplemental type certificate issued in accordance with SFAR No. 41 for a maximum certificated takeoff weight in excess of 12,500 pounds unless within 1 year after issuance of the initial airworthiness certificate under that SFAR the airplane meets the compartment interior requirements set forth in § 25.853(a), (b), (b–1), (b–2), and (b–3) of this chapter in effect on September 26, 1978.

§§ 91.617–91.619 [Reserved]

Subpart H—Foreign Aircraft Operations and Operations of U.S.-Registered Civil Aircraft to Areas Outside of the Conterminous United States

§ 91.701 Applicability.

This subpart contains additional rules applicable to the operations of civil aircraft of U.S. registry to areas outside of the conterminous United States, and the operations of foreign civil aircraft within the United States.

§ 91.703 Operations of civil aircraft of U.S. registry outside of the United States.

(a) Each person operating a civil aircraft of U.S. registry outside of the United States shall—

(1) When over the high seas, comply with Annex 2 (Rules of the Air) to the Convention on International Civil Aviation and with §§ 91.117(c) and 91.133;

(2) When within a foreign country, comply with the regulations relating to the flight and maneuver of aircraft there in force;

(3) Except for §§ 91.307(b), 91.309. 91.707, and 91.713, comply with this part so far as it is not inconsistent with applicable regulations of the foreign country where the aircraft is operated or Annex 2 to the Convention on International Civil Aviation; and

(4) When over the North Atlantic within airspace designated as Minimum Navigation Performance Specifications airspace, comply with § 91.705.

(b) Annex 2 to the Convention on International Civil Aviation, Sixth Edition—September 1970, with amendments through Amendment 20 effective August 1976, to which reference is made in this part is incorporated into this part and made a part hereof as provided in 5 U.S.C. 552 and pursuant to 1 CFR Part 51. Annex 2 (including a complete historic file of changes thereto) is available for public inspection at the Rules Docket, AGC–204, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591. In addition, Annex 2 may be purchased from the International Civil Aviation Organization (Attention: Distribution Officer), P.O. Box 400, Succursale, Place de L'Aviation Internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada #H3A 8R2.

§ 91.705 Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace

No person may operate a civil aircraft of U.S. registry in North Atlantic (NAT) airspace designate as Minimum Navigation Performance Specifications (MNPS) airspace unless that aircraft has approved navigation performance capability which complies with the requirements of Appendix C of this part. The Administrator authorizes deviations from the requirements of this section in accordance with Section 3 of Appendix C to this part.

§ 91.707 Increased maximum certificated weights for certain airplanes operated in Alaska.

(a) Notwithstanding any other provision of the Federal Aviation Regulations, the Administrator will approve, as provided in this section, an increase in the maximum certificated weight of an airplane type certificated under Aeronautics Bulletin No. 7–A of the U.S. Department of Commerce dated January 1, 1931, as amended, or under the normal category of Part 4a of the former Civil Air Regulations (14 CFR 4A, 1964 ed.) if that airplane is operated in the State of Alaska by—

(1) An air taxi operator or other air carrier; or

(2) The U.S. Department of Interior in conducting its game and fish law enforcement activities or its management, fire detection, and fire suppression activities concerning public lands.

(b) The maximum certificated weight approved under this section may not exceed—

(1) 12,500 pounds;

(2) 115 percent of the maximum weight listed in the FAA aircraft specifications;

(3) The weight at which the airplane meets the positive maneuvering load factor requirement for the normal category specified in § 23.337 of this chapter; or

(4) The weight at which the airplane meets the climb performance requirements under which it was type certificated.

(c) In determining the maximum certificated weight, the Administrator considers the structural soundness of the airplane and the terrain to be traversed.

(d) The maximum certificated weight determined under this section is added to the airplane's operation limitations and is identified as the maximum weight authorized for operations within the State of Alaska.

§ 91.709 Flights between Mexico or Canada and the United States.

Unless otherwise authorized by ATC, no person may operate a civil aircraft between Mexico or Canada and the United States without filing an IFR or VFR flight plan, as appropriate.

§ 91.711 Operations to Cuba.

No person may operate a civil aircraft from the United States to Cuba unless—

(a) Departure is from an international airport of entry designated in § 6.13 of the Air Commerce Regulations of the Bureau of Customs (19 CFR 6.13); and

(b) In the case of departure from any of the 48 conterminous states or the District of Columbia, the pilot in command of the aircraft has filed—

(1) A DVFR or IFR flight plan as prescribed in § 99.11 or § 99.13 of this chapter; and

(2) A written statement, within 1 hour before departure, with the Office of Immigration and Naturalization Service at the airport of departure, containing—

(i) All information in the flight plan;

(ii) The name of each occupant of the aircraft;

(iii) The number of occupants of the aircraft; and

(iv) A description of the cargo, if any.

This section does not apply to the operation of aircraft by a scheduled air carrier over routes authorized in operations specifications issued by the Administrator.

§ 91.713 Special rules for foreign civil aircraft.

(a) *General.* In addition to the other applicable regulations of this part, each person operating a foreign civil aircraft within the United States shall comply with this section.

(b) *VFR.* No person may conduct VFR operations which require two-way radio communications under this part unless at least one crewmember of that aircraft is able to conduct two-way radio communications in the English language and is on duty during that operation.

(c) *IFR.* No person may operate a foreign civil aircraft under IFR unless—

(1) That aircraft is equipped with—

(i) Radio equipment allowing two-way radio communications with ATC when it is operated in a control zone or control area; and

(ii) Radio navigational equipment appropriate to the navigational facilities to be used;

(2) Each person piloting the aircraft—

(i) Holds a current United States instrument rating or is authorized by his foreign airman certificate to pilot under IFR; and

(ii) Is thoroughly familiar with the United States en route, holding, and letdown procedures; and

(3) At least one crewmember of that aircraft is able to conduct two-way radiotelephone communications in the English language and that crewmember is on duty while the aircraft is approaching, operating within, or leaving the United States.

(d) *Overwater.* Each person operating a foreign civil aircraft over water off the shores of the United States shall give flight notification or file a flight plan in accordance with the Supplementary Procedures for the ICAO region concerned.

(e) *Flight at and above 24,000 feet MSL.* If VOR navigational equipment is required under paragraph (c)(1)(ii) of this section, no person may operate a foreign civil aircraft within the 50 states and the District of Columbia at or above 24,000 feet MSL, unless the aircraft is equipped with distance measuring equipment (MDE) capable of receiving and indicating distance information from the VORTAC facilities to be used. When DME required by this paragraph fails at and above 24,000 feet MSL, the pilot in command of the aircraft shall notify ATC immediately, and may then continue operations at and above 24,000 feet MSL to the next airport of intended landing at which repairs or replacement of the equipment can be made.

However, paragraph (e) does not apply to foreign civil aircraft that are not equipped with DME when operated for the following purposes, and if ATC is notified prior to each takeoff:

(1) Ferry flights to and from a place in the United State where repairs or alterations are to be made.

(2) Ferry flight to a new country of registry.

(3) Flight of a new aircraft of U.S. manufacture for the purpose of—

(i) Flight testing the aircraft;

(ii) Training foreign flightcrews in the operation of the aircraft; or

(iii) Ferrying the aircraft for export delivery outside the United States.

(4) Ferry, demonstration, and test flights of an aircraft brought to the United States for the purpose of demonstration or testing the whole or any part thereof.

§ 91.715 Operation of civil aircraft of Cuban registry.

No person may operate a civil aircraft of Cuban registry except in controlled airspace and in accordance with air traffic clearances or air traffic control instructions that may require use of specific airways or routes and landings at specific airports.

§ 91.717 Special flight authorizations for foreign civil aircraft.

(a) Foreign civil aircraft may be operated without the airworthiness certificate required under § 91.203 if a special flight authorization for that operation is issued under this section. Application for a special flight authorization must be made to the Regional Director of the FAA region in which the applicant is located. However, application for a special flight authorization for the purpose specified in paragraph (b)(6) of this section must be made to the Regional Director of the FAA region in which the airshow is located.

(b) The Administrator may issue a special flight authorization for a foreign civil aircraft, subject to any conditions and limitations that he considers necessary for safe operation, for any of the following purposes:.

(1) The flight of an aircraft to a place where repairs or alterations are to be made, if the country of registry determines that the aircraft has been damaged to the extent that the airworthiness certificate is invalid.

(2) The flight of an aircraft to a new country of registry, if the airworthiness certificate has been invalidated by the country of registry due to change in nationality.

(3) The flight of an aircraft of U.S. manufacture for flight testing or giving training in the operation of the aircraft to the buyer or his employees or designees, or for the purpose of ferrying the aircraft to make an export delivery outside of the United States whenever title to the aircraft has passed to a foreign buyer and there is no airworthiness certificate for it.

(4) The flight of an aircraft for any purpose stated in paragraph (b)(3) of this section, in the case of a foreign civil aircraft brought to the United States for alterations which invalidate its airworthiness certificate.

(5) The flight of a foreign civil aircraft brought to the United States for the purpose of demonstration in connection with market sales or surveys or for testing the whole or any part thereof. However, for market sales or surveys, the applicant must show at least that—

(i) The applicant is the manufacturer of the aircraft;.

(ii) The applicant has applied for a U.S. type certificate or U.S. supplemental type certificate;.

(iii) The aircraft has flown for 50 hours, or for at least 5 hours if it is a U.S. type certificated aircraft which has been modified;

(iv) The applicant has established operating limitations in an appropriate

document and certifies that the aircraft will be operated within such limitations; and.

(v) The applicant has established an inspection and maintenance program for the continued airworthiness of the aircraft.

(6) The flight of a Canadian-registered amateur-built experimental aircraft brought to the United States for the purpose of demonstration at an airshow within the United States.

(c) An aircraft of U.S. manufacture may be operated for the purposes stated in paragraph (b)(3) of this section even though no registration certificate has been issued by the country of the foreign buyer, if the aircraft bears identification markings issued by the country of registry or intended registry.

§§ 91.719–91.799 [Reserved]

Subpart I—Operating Noise Limits

91.801 Applicability: Relation to Part 36.

(a) This subpart prescribes operating noise limits and related requirements that apply, as follows, to the operation of civil aircraft in the United States:

(1) Sections 91.803, 91.805, 91.807, 91.809, and 91.811 apply to civil subsonic turbojet airplanes with maximum weights of more than 75,000 pounds and—

(i) If U.S. registered, that have standard airworthiness certificates; or

(ii) If foreign registered, that would be required by this chapter to have a U.S. standard airworthiness certificate in order to conduct the operations intended for the airplane were it registered in the United States. Those sections apply to operations to or from airports in the United States under this part and Parts 121, 123, 125, 129, and 135 of this chapter.

(2) Section 91.813 applies to U.S. operators of civil subsonic turbojet airplanes covered by this subpart. That section applies to operators operating to or from airports in the United States under this part and Parts 121, 123, 125, and 135, but not to those operating under Part 129 of this chapter..

(3) Sections 91.819 and 91.821 apply to U.S.-registered civil supersonic airplanes having standard airworthiness certificates and to foreign-registered civil supersonic airplanes that, if registered in the United States, would be required by this chapter to have U.S. standard airworthiness certificates in order to conduct the operations intended for the airplane. Those sections apply to operations under this part and under Parts 121, 123, 125, 129, and 135 of this chapter.

(b) Unless otherwise specified, as used in this subpart "Part 36" refers to 14 CFR Part 36, including the noise levels under Appendix C of that part, notwithstanding the provisions of that part excepting certain airplanes from the specified noise requirements. For purposes of this subpart, the various stages of noise levels, the terms used to describe airplanes with respect to those levels, and the terms "subsonic airplane" and "supersonic airplane" have the meaning specified under Part 36 of this chapter. For purposes of this subpart, for subsonic airplanes operated in foreign air commerce in the United States, the Administrator may accept compliance with the noise requirements under Annex 16 of the International Civil Aviation Organization when those requirements have been shown to be substantially compatible with, and achieve results equivalent to those achievable under, Part 36 for that airplane. Determinations made under these provisions are subject to the limitations of § 36.5 of this chapter as if those noise levels were Part 36 noise levels.

§ 91.803 Part 125 operators: Designation of applicable regulations.

For airplanes covered by this subpart and operated under Part 125, the following regulations apply as specified:

(a) For each airplane operation to which requirements prescribed under this subpart applied before November 1, 1980, those requirements of this subpart continue to apply

(b) For each subsonic airplane operation to which requirements prescribed under this subpart did not apply before November 1, 1980, because the airplane was not operated in the United States under this part or Part 121, 123, 129, or 135, the requirements prescribed under §§ 91.805, 91.809, 91.811, and 91.813 of this subpart apply.

(c) For each supersonic airplane operation to which requirements prescribed under this subpart did not apply before November 1, 1980, because the airplane was not operated in the United States under this part or part 121, 123, 129, or 135, the requirements of §§ 91.819 and 91.821 of this subpart apply.

(d) For each airplane required to operate, under Part 125 for which a deviation under that part is approved to operate, in whole or in part, under this part or Part 121, 123, 129, or 135, notwithstanding the approval, the requirements prescribed under paragraphs (a), (b), and (c) of this section continue to apply.

§ 91.805 Final compliance: Subsonic airplanes.

Except as provided in §§ 91.809 and 91.811, on and after January 1, 1985, no person may operate to or from an airport in the United States any subsonic airplane covered by this subpart unless that airplane has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36 of this chapter.

§ 91.807 Phased compliance under Parts 121, 125, and 135: Subsonic airplanes.

(a) *General.* Each person operating airplanes under Part 121, 125, or 135 of this chapter, as prescribed under § 91.803 of this subpart, regardless of the state of registry of the airplane, shall comply with this section with respect to subsonic airplanes covered by this subpart.

(b) *Compliance schedule.* Except for airplanes shown to be operated in foreign air commerce under paragraph (c) of this section or covered by an exemption (including those issued under § 91.811), airplanes operated by U.S. operators in air commerce in the United States must be shown to comply with Stage 2 or Stage 3 noise levels under Part 36, in accordance with the following schedule, or they may not be operated to or from airports in the United States:

(1) By January 1, 1981—

(i) At least one quarter of the airplanes that have four engines with no bypass ratio or with a bypass ratio less than two; and

(ii) At least half of the airplanes powered by engines with any other bypass ratio or by another number of engines.

(2) By January 1, 1983—

(i) At least one half of the airplanes that have four engines with no bypass ratio or with a bypass ratio less than two; and

(ii) All airplanes powered by engines with any other bypass ratio or by another number of engines.

(c) *Apportionment of airplanes.* For purposes of paragraph (b) of this section, a person operating airplanes engaged in domestic and foreign air commerce in the United States may elect not to comply with the phased schedule with respect to that portion of the airplanes operated by that person shown, under an approved method of apportionment, to be engaged in foreign air commerce in the United States.

§ 91.809 Replacement airplanes.

A Stage 1 airplane may be operated after the otherwise applicable compliance dates prescribed under §§ 91.805 and 91.807 if, under an approved plan, a replacement airplane

has been ordered by the operator under a binding contract as follows:

(a) For replacement of an airplane powered by two engines, until January 1, 1986, but not after the date specified in the plan, if the contract is entered into by January 1, 1983, and specifis delivery before January 1, 1986, of a replacement airplane which has been shown to comply with Stage 3 noise levels under Part 36 of this chapter.

(b) For replacement of an airplane powered by three engines, until January 1, 1985, but not after the date specified in the plan, if the contract is entered into by January 1, 1983, and specifies delivery before January 1, 1985, of a replacement airplane which has been shown to comply with Stage 3 noise levels under Part 36 of this chapter.

(c) For replacement of any other airplane, until January 1, 1985, but not after the date specified in the plan, if the contract specifies delivery before January 1, 1985, of a replacement airplane which—

(1) Has been shown to comply with Stage 2 or Stage 3 noise levels under Part 36 of this chapter prior to issuance of an original standard airworthiness certificate; or

(2) Has been shown to comply with Stage 3 noise levels under Part 36 of this chapter prior to issuance of a standard airworthiness certificate other than original issue.

(d) Each operator of a Stage 1 airplane for which approval of a replacement plan is requested under this section shall submit to the Director, Office of Environment and Energy, an application constituting the proposed replacement plan (or revised plan) that contains the information specified under this paragraph and which is certified (under penalty of 18 U.S.C. § 1001) as true and correct. Each application for approval must provide information corresponding to that specified in the contract, upon which the FAA may rely in considering its approval, as follows:

(1) Name and address of the applicant.

(2) Aircraft type and model and registration number for each airplane to be replaced under the plan.

(3) Aircraft type and model of each replacement airplane.

(4) Scheduled dates of delivery and introduction into service of each replacement airplane.

(5) Name and addresses of the parties to the contract and any other persons who may effectively cancel the contract or otherwise control the performance of any party.

(6) Information specifying the anticipated disposition of the airplanes to be replaced.

(7) A statement that the contract represents a legally enforceable, mutual agreement for delivery of an eligible replacement airplane.

(8) Any other information or documentation requested by the Director, Office of Environment and Energy, reasonably necessary to determine whether the plan should be approved.

§ 91.811 Service to small communities exemption: Two-engine, subsonic airplanes.

(a) A Stage 1 airplane powered by two engines may be operated after the compliance dates prescribed under §§ 91.805, 91.807, and 91.809 when, with respect to that airplane, the Administrator issues an exemption to the operator from the noise level requirements under this subpart. Each exemption issued under this section terminates on the earliest of the following dates:

(1) For an exempted airplane sold, or otherwise disposed of, to another person on or after January 1, 1983, on the date of delivery to that person.

(2) For an exempted airplane with a seating configuration of 100 passenger seats or less, on January 1, 1988.

(3) For an exempted airplane with a seating configuration of more than 100 passenger seats, on January 1, 1985.

(b) For the purposes of this section, the seating configuration of an airplane is governed by that shown to exist on December 1, 1979, or an earlier date established for that airplane by the Administrator.

§ 91.813 Compliance plans and status: U.S. operators of subsonic airplanes.

(a) Each U.S. operator of a civil subsonic airplane covered by this subpart (regardless of the state of registry) shall submit to the Director, Office of Environment and Energy, in accordance with this section, the operator's current compliance status and plan for achieving and maintaining compliance with the applicable noise level requirements of this subpart. If appropriate, an operator may substitute for the required plan a notice, certified as true (under penalty of 18 U.S.C. 1001) by that operator, that no change in the plan or status of any airplane affected by the plan has occurred since the date of the plan most recently submitted under this section.

(b) Each compliance plan, including each revised plan, must contain the information specified under paragraph (c) of this section for each airplane covered by this section that is operated by the operator. Unless otherwise approved by the Administrator, compliance plans must provide the required plan and status information as it exists on the date 30 days before the date specified for submission of the plan. Plans must be certified by the operator as true and complete (under penalty of 18 U.S.C. § 1001) and be submitted for each airplane covered by this section on or before 90 days after initially commencing operation of airplanes covered by this section, whichever is later, and thereafter—

(1) Thirty days after any change in the operator's fleet or compliance planning decisions that has a separate or cumulative effect on 10 percent or more of the airplanes in either class of airplanes covered by § 91.807(b); and

(2) Thirty days after each compliance date applicable to that airplane under this subpart, and annually thereafter through 1985, or until any later date for that airplane prescribed under this subpart, on the anniversary of that submission date, to show continuous compliance with this subpart.

(c) Each compliance plan submitted under this section must identify the operator and include information regarding the compliance plan and status for each airplane covered by the plan as follows:

(1) Name and address of the airplane operator.

(2) Name and telephone number of the person designated by the operator to be responsible for the preparation of the compliance plan and its submission.

(3) The total number of airplanes covered by this section and in each of the following classes and subclasses:

(i) For airplanes engaged in domestic air commerce—

(A) Airplanes powered by four turbojet engines with no bypass ratio or with a bypass ratio less than two;

(B) Airplanes powered by engines with any other bypass ratio or by another number of engines; and

(C) Airplanes covered by an exemption issued under § 91.811 of this subpart.

(ii) For airplanes engaged in foreign air commerce under an approved apportionment plan—

(A) Airplanes powered by four turbojet engines with no bypass ratio or with a bypass ratio less than two;

(B) Airplanes powered by engines with any other bypass ratio or by another number of engines; and

(C) Airplanes covered by an exemption issued under § 91.811 of this subpart.

(4) For each airplane covered by this section—

(i) Aircraft type and model;

(ii) Aircraft registration number;

(iii) Aircraft manufacturer serial number;

(iv) Aircraft powerplant make and model;

(v) Aircraft year of manufacturer;

(vi) Whether Part 36 noise level compliance has been shown, "Yes/No";

(vii) The appropriate code prescribed under paragraph (c)(5) of this section which indicates the acoustical technology installed or to be installed on the airplane;

(viii) For airplanes on which acoustical technology has been or will be applied, following the appropriate code entry, the actual or scheduled month and year of installation on the airplane;

(ix) For DC–8 and B–707 airplanes operated in domestic U.S. air commerce which have been or will be retired from service in the United States without replacement between January 24, 1977, and January 1, 1985, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of retirement of the airplane from service;

(x) For DC–8 and B–707 airplanes operated in foreign air commerce in the United States which have been or will be retired from service in the United States without replacement between April 14, 1980, and January 1, 1985, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of retirement of the airplane from service;

(xi) For airplanes covered by an approved replacement plan under § 91.807(c) of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section followed by the scheduled month and year for replacement of the airplane;

(xii) For airplanes designated as "engaged in foreign commerce" in accordance with an approved method of apportionment under § 91.807(c) of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section;

(xiii) For airplanes covered by an exemption issued to the operator granting relief from noise requirements of this subpart, the appropriate code prescribed under paragraph (c)(5) of this section followed by the actual or scheduled month and year of expiration of the exemption and the appropriate code and applicable dates which indicate the compliance strategy planned or implemented for the airplane;

(xiv) For all airplanes covered by this section, the number of spare shipsets of acoustical components needed for continuous compliance and the number available on demand to the operator in support of those airplanes; and

(xv) For airplanes for which none of the other codes prescribed under paragraph (c)(5) of this section describes either the technology applied or to be applied to the airplane in accordance with the certification requirements under Parts 21 and 36 of this chapter, or the compliance strategy or methodology, following the code "OTH," enter the date of any certificate action and attach an addendum to the plan explaining the nature and extent of the certificated technology, strategy, or methodology employed, with reference to the type certificate documentation.

(5) Table of Acoustical Technology/ Strategy Codes

Code	Airplane type/ model	Certificated technology
A	B–707–120B B–707–320B/C B–720B	Quiet Nacelles + 1-Ring.
B	B–727–100	Double Wall Fan Duct Treatment.
C	B–727–200	Double Wall Fan Duct Treatment (Pre-January Installations and Amended Type Certificate).
D	B–727–200 B–737–100 B–737–200	Quiet Nacelles + Double Wall Fan Duct Treatment.
E	B–747–100 (pre-December 1971). B–747–200 (pre-December 1971).	Fixed Lip Inlets + Sound Absorbing Material Treatment.
F	DC–8	New Extended Inlet and Bullet with Treatment + Fan Duct Treatment Kit.
G	DC–9	P–36 Sound Absorbing Material Treatment Kit.
H	BAC–111–200	Silencer Kit (BAC Acoustic Report 522).
I	BAC–111–400	(To be identified later if certificated).
J	B–707 DC–8	Reengined with High Bypass Ratio Turbojet Engines + Quiet Nacelles (if certificated under Stage 3 noise level requirements).

REP—For Airplanes covered by an approved replacement under § 94.807(c) of this subpart.

EFC—For airplanes designated as "engaged in foreign commerce" in accordance with an approved method of apportionment under § 91.811 of this subpart.

RET—For DC–8 and B–707 airplanes operated in domestic U.S. air commerce and retired from service in the United States without replacement between January 24, 1977, and January 1, 1985.

RFC—For DC–8 and B–707 airplanes operated by U.S. operators in foreign air commerce in the United States and retired from service in the United States without replacement between April 14, 1980, and January 1, 1985.

EXD—For airplanes exempted from showing compliance with the noise level requirements of this subpart.

OTH—For airplanes for which no other prescribed code describes either the certificated technology applied or to be applied to the airplane, or the compliance strategy or methodology. (An addendum must explain the nature and extent of technology, strategy, or methodology and reference the type certificate documentation.)

§ 91.815 Agricultural and fire-fighting airplanes: Noise operating limitations.

(a) This section applies to propeller-driven, small airplanes having standard airworthiness certificates that are designed for "agricultural aircraft operations" (as defined in § 137.3 of this chapter, as effective on January 1, 1966) or for dispensing fire-fighting materials.

(b) If the airplane flight manual, or other approved manual material, information, markings, or placards for the airplane indicate that the airplane has not been shown to comply with the noise limits under Part 36 of this chapter, no person may operate that airplane, except—

(1) To the extent necessary to accomplish the work activity directly associated with the purpose for which it is designed;

(2) To provide flight crewmember training in the special purpose operation for which the airplane is designed; and

(3) To conduct "nondispensing aerial work operations" in accordance with the requirements under § 137.29(c) of this chapter.

§ 91.817 Civil aircraft sonic boom.

(a) No person may operate a civil aircraft in the United States at a true flight Mach number greater than 1 except in compliance with conditions and limitations in an authorization to exceed Mach 1 issued to the operator under Appendix B of this part.

(b) In addition, no person may operate a civil aircraft for which the maximum operating limit speed M_{mo} exceeds a Mach number of 1, to or from an airport in the United States unless—

(1) Information available to the flightcrew includes flight limitations that ensure that flights entering or leaving the United States will not cause a sonic boom to reach the surface within the United States; and

(2) The operator complies with the flight limitations prescribed in paragraph (b)(1) of this section or complies with conditions and limitations in an authorization to exceed Mach 1 issued under Appendix B of this part.

§ 91.819 Civil supersonic airplanes that do not comply with Part 36.

(a) *Applicability.* This section applies to civil supersonic airplanes that have not been shown to comply with the Stage 2 noise limits of Part 36 in effect on October 13, 1977, using applicable tradeoff provisions, and that are

operated in the United States after July 31, 1978.

(b) *Airport use.* Except in an emergency, the following apply to each person who operates a civil supersonic airplane to or from an airport in the United States:

(1) Regardless of whether a type design change approval is applied for under Part 21 of this chapter, no person may land or take off an airplane covered by this section for which the type design is changed, after July 31, 1978, in a manner constituting an "acoustical change" under § 21.98 unless the acoustical change requirements of Part 36 are complied with.

(2) No flight may be scheduled, or otherwise planned, for takeoff or landing after 10 p.m. and before 7 a.m. local time.

§ 91.821 Civil supersonic airplanes: Noise limits.

Except for Concorde airplanes having flight time before January 1, 1980, no person may operate in the United States, a civil supersonic airplane that does not comply with Stage 2 noise limits of Part 36 in effect on October 13, 1977, using applicable tradeoff provisions.

§§ 91.823-91.899 [Reserved]

SUBPART J— WAIVERS

§ 91.901 Applicability.

This subpart outlines the Administrator's policy and procedures concerning the issuance of waivers to this part and also lists by number those rules that may be waived.

§ 91.903 Policy and procedures.

(a) The Administrator may issue a certificate of waiver authorizing the operation of aircraft in deviation from any rule listed in this subpart if he finds that the proposed operation can be safely conducted under the terms of that certificate of waiver.

(b) An application for a certificate of waiver under this part is made on a form and in a manner prescribed by the Administrator and may be submitted to any FAA office.

(c) A certificate of waiver is effective as specified in that certificate of waiver.

§ 91.905 List of rules subject to waiver.

Sec.
91.107 Use of safety belts.
91.111 Operating near other aircraft.
91.113 Right-of-way rules: Except water operations.
91.115 Right-of-way rules: Water operation.
91.117 Aircraft speed.
91.119 Minimum safe altitudes: General.
91.121 Altimeter settings.
91.123 Compliance with ATC clearances and instructions.
91.125 ATC Light Signals.
91.127 Operating on or in the vicinity of an airport: General rules.
91.129 Operation at airports without control towers.
91.131 Operation at airports with operating control towers.
91.133 Terminal control areas.
91.135 Restricted and prohibited areas.
91.137 Positive control areas and route segments.
91.139 Temporary flight restrictions.
91.143 Flight restrictions in the proximity of the Presidential and other parties.
91.145 Flight limitation in the proximity of space flight recovery operations.
91.151 VFR flight plan: Information required.
91.155 Basic VFR weather minimums.
91.157 Special VFR weather minimums.
91.159 VFR cruising altitude or flight level.
91.169 IFR flight plan: Information required.
91.173 ATC clearance and flight plan required.
91.175 Takeoff and landing under IFR.
91.177 Minimum altitudes for IFR operations.
91.179 IFR cruising or flight level.
91.181 Course to be flown.
91.183 IFR radio communications.
91.185 IFR operations: Two-way radio communication failure.
91.187 Operation under IFR in controlled airspace: Malfunction reports.
91.209 Aircraft lights.
91.303 Acrobatic flight.
91.305 Flight test areas.
91.311 Towing: Other than under § 91.309.
91.313(d) Restricted category civil aircraft: Operating limitations.
91.705 Operations within the North Atlantic Minimum Navigation Performance Specifications Airspace.
91.709 Flights between Mexico or Canada and the United States.
91.711 Operations to Cuba.
91.715 Operation of civil aircraft of Cuban registry.

Appendix A—Category II Operations: Manual, Instruments, Equipment, and Maintenance

1. *Category II manual.*

(a) *Application for approval.* An applicant for approval of a Category II manual or an amendment to an approved Category II manual must submit the proposed manual or amendment to the general aviation district office having jurisdiction of the area in which the applicant is located. If the application requests an evaluation program, it must include the following:

(1) The location of the airplane and the place where the demonstrations are to be conducted; and

(2) The date the demonstrations are to commence (at least 10 days after filing the application).

(b) *Contents.* Each Category II manual must contain:

(1) The registration number, make, and model of the airplane to which it applies;

(2) A maintenance program as specified in § 4 of this Appendix; and

(3) The procedures and instructions related to recognition of decision height, use of runway visual range information, approach monitoring, the decision region (the region between the middle marker and the decision height), the maximum permissible deviations of the basic ILS indicator within the decision region, a missed approach, use of airborne low approach equipment, minimum altitude for the use of the autopilot, instrument and equipment failure warning systems, instrument failure, and other procedures, instructions, and limitations that may be found necessary by the Administrator.

2. *Required instruments and equipment.*

The instruments and equipment listed in this section must be installed in each airplane operated in a Category II operation. This section does not require duplication of instruments and equipment required by § 91.205 or any other provisions of this chapter.

(a) *Group I.*

(1) Two localizer and glide slope receiving systems. Each system must provide a basic ILS display and each side of the instrument panel must have a basic ILS display. However, a single localizer antenna and a single glide slope antenna may be used.

(2) A communications system that does not affect the operation of at least one of the ILS systems.

(3) A marker beacon receiver that provides distinctive aural and visual indications of the outer and the middle markers.

(4) Two gyroscopic pitch and bank indicating systems.

(5) Two gyroscopic direction indicating systems.

(6) Two airspeed indicators.

(7) Two sensitive altimeters adjustable for barometric pressure, each having a placarded correction for altimeter scale error and for the wheel height of the airplane. Two sensitive altimeters adjustable for barometric pressure, having markings at 20-foot intervals and each having a placarded correction for altimeter scale error and for the wheel height of the airplane.

(8) Two vertical speed indicators.

(9) A flight control guidance system that consists of either an automatic approach coupler or a flight director system. A flight director system must display computed information as steering command in relation to an ILS localizer and, on the same instrument, either computed information as pitch command in relation to an ILS glide slope or basic ILS glide slope

information. An automatic approach coupler must provide at least automatic steering in relation to an ILS localizer. The flight control guidance system may be operated from one of the receiving systems required by subparagraph (1) of this paragraph.

(10) For Category II operations with decision heights below 150 feet, either a marker beacon receiver providing aural and visual indications of the inner marker or a radio altimeter.

(b) *Group II.*

(1) Warning systems for immediate detection by the pilot of system faults in items (1), (4), (5), and (9) of Group I and, if installed for use in Category II operations, the radio altimeter and autothrottle system.

(2) Dual controls.

(3) An externally vented static pressure system with an alternate static pressure source.

(4) A windshield wiper or equivalent means of providing adequate cockpit visibility for a safe visual transition by either pilot to touchdown and rollout.

(5) A heat source for each airspeed system pilot tube installed or an equivalent means of preventing malfunctioning due to icing of the pitot system.

3. *Instruments and equipment approval.*

(a) *General.* The instruments and equipment required by § 2 of this appendix must be approved as provided in this section before being used in Category II operations. Before presenting an airplane for approval of the instruments and equipment, it must be shown that since the beginning of the 12th calendar month before the date of submission—

(1) The ILS localizer and glide slope equipment were bench checked according to the manufacturer's instructions and found to meet those standards specified in RTCA Paper 23–63/DO–117, dated March 14, 1963, "Standard Adjustment Criteria for Airborne Localizer and Glide Slope Receivers," which may be obtained from the RTCA Secretariat, 2000 K St., NW., Washington, D.C. 20006.

(2) The altimeters and the static pressure systems were tested and inspected in accordance with Appendix E to Part 43 of this chapter; and

(3) All other instruments and items of equipment specified in § 2(a) of this appendix that are listed in the proposed maintenance program were bench checked and found to meet the manufacturer's specifications.

(b) *Flight control guidance system.* All components of the flight control guidance system must be approved as installed by the evaluation program specified in paragraph (e) of this section if they have not been approved for Category II operations under applicable type or supplemental type certification procedures. In addition, subsequent changes to make, model, or design of these components must be approved under this paragraph. Related systems or devices, such as the autothrottle and computed missed approach guidance system, must be approved in the same manner if they are to be used for Category II operations.

(c) *Radio Altimeter.* A radio altimeter must meet the performance criteria of this paragraph for original approval and after each subsequent alteration.

(1) It must display to the flightcrew clearly and positively the wheel height of the main landing gear above the terrain.

(2) It must display wheel height above the terrain to an accuracy of plus or minus 5 feet or 5 percent, whichever is greater, under the following conditions:

(i) Pitch angles of zero to plus or minus 5 degrees about the mean approach attitude.

(ii) Roll angles of zero to 20 degrees in either direction.

(iii) Forward velocities from minimum approach speed up to 200 knots.

(iv) Sink rates from zero to 15 feet per second at altitudes from 100 to 200 feet.

(3) Over level ground, it must track the actual altitude of the airplane without significant lag or oscillation.

(4) With the airplane at an altitude of 200 feet or less, any abrupt change in terrain representing no more than 10 percent of the airplane's altitude must not cause the altimeter to unlock, and indicator response to such changes must not exceed 0.1 seconds and, in addition, if the system unlocks for greater changes, it must reacquire the signal in less than 1 second.

(5) Systems that contain a push-to-test feature must test the entire system (with or without an antenna) at a simulated altitude of less than 500 feet.

(6) The system must provide to the flightcrew a positive failure warning display any time there is a loss of power or an absence of ground return signals within the designed range of operating altitudes.

(d) *Other instruments and equipment.* All other instruments and items of equipment required by § 2 of this appendix must be capable of performing as necessary for Category II operations. Approval is also required after each subsequent alteration to these instruments and items of equipment.

(e) *Evaluation program.*—(1) *Application.* Approval by evaluation is requested as a part of the application for approval of the Category II manual.

(2) *Demonstrations.* Unless otherwise authorized by the Administrator, the evaluation program for each airplane requires the demonstrations specified in this subparagraph. At least 50 ILS approaches must be flown with at least five approaches on each of three different ILS facilities and no more than one half of the total approaches on any one ILS facility. All approaches shall be flown under simulated instrument conditions to a 100-foot decision height and 90 percent of the total approaches made must be successful. A successful approach is one in which—

(i) At the 100-foot decision height, the indicated airspeed and heading are satisfactory for a normal flare and landing (speed must be plus or minus 5 knots of programmed airspeed, but may not be less than computed threshold speed if autothrottles are used);

(ii) The airplane, at the 100-foot decision height, is positioned so that the cockpit is within, and tracking so as to remain within, the lateral confines of the runway extended;

(iii) Deviation from glide slope after leaving the outer marker does not exceed 50 percent of full-scale deflection as displayed on the ILS indicator;

(iv) No unusual roughness or excessive altitude changes occur after leaving the middle marker; and

(v) In the case of an airplane equipped with an approach coupler, the airplane is sufficiently in trim when the approach coupler is disconnected at the decision height to allow for the continuation of a normal approach and landing.

(3) *Records.* During the evaluation program the following information must be maintained by the applicant for the airplane with respect to each approach and made available to the Administrator upon request:

(i) Each deficiency in airborne instruments and equipment that prevented the initiation of an approach.

(ii) The reasons for discontinuing an approach, including the altitude above the runway at which it was discontinued.

(iii) Speed control at the 100-foot decision height if autothrottles are used.

(iv) Trim condition of the airplane upon disconnecting the autocoupler with respect to continuation to flare and landing.

(v) Position of the airplane at the middle marker and at the decision height indicated both on a diagram of the basic ILS display and a diagram of the runway extended to the middle marker. Estimated touchdown point must be indicated on the runway diagram.

(vi) Compatibility of flight director with the autocoupler, if applicable.

(vii) Quality of overall system performance.

(4) *Evaluation.* A final evaluation of the flight control guidance system is made upon successful completion of the demonstrations. If no hazardous tendencies have been displayed or are otherwise known to exist, the system is approved as installed.

(4) *Maintenance program.*

(a) Each maintenance program must contain the following:

(1) A list of each instrument and item of equipment specified in § 2 of this appendix that is installed in the airplane and approved for Category II operations, including the make and model of those specified in § 2(a).

(2) A schedule that provides for the performance of inspections under subparagraph (5) of this paragraph within 3 calendar months after the date of the previous inspection. The inspection must be performed by a person authorized by Part 43 of this chapter, except that each alternate inspection may be replaced by a functional flight check. This functional flight check must be performed by a pilot holding a Category II pilot authorization for the type airplane checked.

(3) A schedule that provides for the performance of bench checks for each listed instrument and item of equipment that is specified in § 2(a) within 12 calendar months after the date of the previous bench check.

(4) A schedule that provides for the performance of a test and inspection of each static pressure system in accordance with Appendix E to Part 43 of this chapter within 12 calendar months after the date of the previous test and inspection.

(5) The procedures for the performance of the periodic inspections and functional flight checks to determine the ability of each listed instrument and item of equipment specified in § 2(a) of this appendix to perform as approved for Category II operations, including a procedure for recording functional flight checks.

(6) A procedure for assuring that the pilot is informed of all defects in listed instruments and items of equipment.

(7) A procedure for assuring that the condition of each listed instrument and item of equipment upon which maintenance is performed is at least equal to its Category II approval condition before it is returned to service for Category II operations.

(8) A procedure for an entry in the maintenance records required by § 43.9 of this chapter that shows the date, airport, and reasons for each discontinued Category II operation because of a malfunction of a listed instrument or item of equipment.

(b) *Bench check.* A bench check required by this section must comply with this paragraph.

(1) It must be performed by a certificated repair station holding one of the following ratings as appropriate to the equipment checked:

(i) An instrument rating.

(ii) A radio rating.

(iii) A rating issued under Subpart D of Part 145.

(2) It must consist of removal of an instrument or item of equipment and performance of the following:

(i) A visual inspection for cleanliness, impending failure, and the need for lubrication, repair, or replacement of parts;

(ii) Correction of items found by that visual inspection; and

(iii) Calibration to at least the manufacturer's specifications unless otherwise specified in the approved Category II manual for the airplane in which the instrument or item of equipment is installed.

(c) *Extensions.* After the completion of one maintenance cycle of 12 calendar months, a request to extend the period for checks, tests, and inspections is approved if it is shown that the performance of particular equipment justifies the requested extension.

Appendix B—Authorizations To Exceed Mach 1 (§ 91.817)

Section 1. *Application.*

(a) An applicant for an authorization to exceed Mach 1 must apply in a form and manner prescribed by the Administrator and must comply with this appendix.

(b) In addition, each application for an authorization to exceed Mach 1 covered by § 2(a) of this appendix must contain all information requested by the administrator that he deems necessary to assist him in determining whether the designation of a particular test area, or issuance of a particular authorization is a "major Federal action significantly affecting the quality of the human environment" within the meaning of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), and to assist him in complying with that Act, and with related Executive Orders, guidelines, and orders prior to such action.

(c) In addition, each application for an authorization to exceed Mach 1 covered by § 2(a) of this appendix must contain—

(1) Information showing that operation at a speed greater than Mach 1 is necessary to accomplish one or more of the purposes specified in § 2(a) of this appendix, including a showing that the purpose of the test cannot be safely or properly accomplished by overocean testing;

(2) A description of the test area proposed by the applicant, including an environmental analysis of that area meeting the requirements of paragraph (b) of this section; and

(3) Conditions and limitations that will ensure that no measurable sonic boom overpressure will reach the surface outside of the designated test area.

(d) An application is denied if the Administrator finds that such action is necessary to protect or enhance the environment.

Section 2. *Issuance.*

(a) For a flight in a designated test area, an authorization to exceed Mach 1 may be issued when the Administrator has taken the environmental protective actions specified in § 1(b) of this appendix and the applicant shows one or more of the following:

(1) The flight is necessary to show compliance with airworthiness requirements.

(2) The flight is necessary to determine the sonic boom characteristics of the airplane, or is necessary to establish means of reducing or eliminating the effects of sonic boom.

(3) The flight is necessary to demonstrate the conditions and limitations under which speeds greater than a true flight Mach number of 1 will not cause a measurable sonic boom overpressure to reach the surface.

(b) For a flight outside of a designated test area, an authorization to exceed Mach 1 may be issued if the applicant shows conservatively under paragraph (a)(3) of this section that—

(1) The flight will not cause a measurable sonic boom overpressure to reach the surface when the aircraft is operated under conditions and limitations demonstrated under paragraph (a)(3) of this section; and

(2) Those conditions and limitations represent all foreseeable operating conditions.

Section 3. *Duration.*

(a) An authorization to exceed Mach 1 is effective until it expires or is surrendered, or until it is suspended or terminated by the Administrator. Such an authorization may be amended or suspended by the Administrator at any time if he finds that such action is necessary to protect the environment. Within 30 days of notification of amendment, the holder of the

authorization must request reconsideration or the amendment becomes final. Within 30 days of notification of suspension, the holder of the authorization must request reconsideration, or the authorization is automatically terminated. If reconsideration is requested within the 30-day period, the amendment or suspension continues until the holder shows why, in his opinion, the authorization should not be amended or terminated. Upon such showing, the Administrator may terminate or amend the authorization if he finds that such action is necessary to protect the environment, or he may reinstate the authorization without amendment if he finds that termination or amendment is not necessary to protect the environment.

(b) Findings and actions by the Administrator under this section do not affect any certificate issued under Title VI of the Federal Aviation Act of 1958.

Appendix C—Operations in the North Atlantic (NAT) Minimum Navigation Performance Specification (MNPS) Airspace

Section 1. NAT MNPS airspace is that volume of airspace between flight level 275 and flight level 400 extending between latitude 27 degrees north and latitude 67 degrees north, bounded in the east by the eastern boundaries of flight information regions Santa Maria Oceanic, Shanwick Oceanic, and Reykjavik, and in the west by longitude 60 degrees west within flight information region New York Oceanic, the western boundary of flight information region Gander Oceanic, and the western boundary of flight information region Reykjavik.

Section 2. The navigation performance capability required for aircraft to be operated in the airspace defined in § 1 of this appendix is as follows:

(a) The standard deviation of lateral track errors shall be less than 6.3 NM (11.7 Km). Standard deviation is a statistical measure of data about a mean value. The mean is zero nautical miles. The overall form of data is such that the plus and minus 1 standard deviation about the mean encompasses approximately 68 percent of the data and plus or minus 2 deviations encompasses approximately 95 percent.

(b) The proportion of the total flight time spent by aircraft 30 NM (55.6 Km) or more off the cleared track shall be less than 5.3×10^{-4} (less than 1 hour in 1,887 flight hours).

(c) The proportion of the total flight time spent by aircraft between 50 NM and 70 NM (92.6 Km and 129.6 Km) off the cleared track shall be less than 13×10^{-5} (less than 1 hour in 7,693 flight hours).

Section 3. Air traffic control (ATC) may authorize an aircraft operator to deviate from the requirements of § 91.705 for a specific flight if, at the time of flight plan filing for that flight, ATC determines that the aircraft may be provided appropriate separation and that the flight will not interfere with, or impose a burden upon, the operations of other aircraft which meet the requirements of § 91.705.

2. By amending the provisions in other parts of the Federal Aviation Regulations in the specified rules by deleting the references to current Part 91 provisions and substituting for them references to the revised Part 91 provisions as follows:

Rule	Deletion	Substitution
	Part 1	
§ 1.1 (Operate)	§ 91.10 of this chapter	§ 91.13 of this chapter.
	Part 21	
§ 21.81(a)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.83(a)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.83(b)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.85(f)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.221(a)(2)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.221(e)	§ 91.41	§ 91.317.
§ 21.223(a)(2)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.223(f)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.225(a)(2)	§ 91.41 of this chapter	§ 91.317 of this chapter.
§ 21.225(e)	§ 91.41 of this chapter	§ 91.317 of this chapter.
	Part 43	
§ 43.5(a)(4)	§ 91.31 of this chapter	§ 91.9 of this chapter.
§ 43.9(a)(5)	§ 91.217 of this chapter	§ 91.537 of this chapter.
§ 43.13(d)	§ 91.217 of this chapter	§ 91.537 of this chapter.
§ 43.13(d)(1)	(§ 91.217(b)(1) of this chapter)	(§ 91.537(b)(1) of this chapter).
§ 43.13(d)(2)	(§ 91.217 of this chapter)	(§ 91.537(b)(2) of this chapter).
§ 43.13(d)(3)	(§ 91.217(b)(3) of this chapter)	(§ 91.537(b)(3) of this chapter).
§ 43.13(d)(4)	(§ 91.217(b)(4) of this chapter)	(§ 91.537(b)(4) of this chapter).
§ 43.313(d)(5)	(§ 91.217(b)(5) of this chapter)	(§ 91.537(b)(5) of this chapter).
Appendix E	§ 91.170	§ 91.413.
Appendix F	§ 91.177 of this chapter	§ 91.415 of this chapter.
	Part 45	
§ 45.22(a)(3)(ii)	§ 91.83 of this chapter	§ 91.153 and 91.169 of this chapter.
	Part 47	
§ 47.9(f)(1)(i)	§ 91.173(a)(2)(i)	§ 91.417(a)(2)(i).
	Part 61	
§ 61.15(b)	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 61.118(d)(5)	§ 91.169 of this chapter	§ 91.409 of this chapter.
§ 61.153(a)	and §§ 91.1 thru 91.9	§§ 91.1, 91.3, 91.5, 91.11, 91.13.
	Part 63	
§ 63.12(b)	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
	Part 65	
§ 65.12(b)	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
	Part 93	
§ 93.111	§ 91.107 of this chapter	§ 91.157 of this chapter.
§ 93.113	§ 91.107 of this chapter	§ 91.157 of this chapter.
	Part 99	
§ 99.11(b)(1)	§ 91.83 of this chapter	§ 91.169 of this chapter.
§ 99.11(b)(2)	§ 91.83(a) (1) thru (7) of this chapter	§ 91.153(a) (1) thru (7) of this chapter.
§ 99.13(b)(1)	§ 91.83 of this chapter	§ 91.169 of this chapter.
§ 99.13(b)(2)	§ 91.83(a) (1) thru (7) of this chapter	§ 91.153(a) (1) thru (7) of this chapter.
§ 99.17(a)	§ 91.125 of this chapter	§ 91.183 of this chapter.
§ 99.25(a)(1)	§ 91.125 of this chapter	§ 91.183 of this chapter.
§ 99.27(a)	§ 91.75 of this chapter	§ 91.123 of this chapter.
§ 99.31	§ 91.127 of this chapter	§ 91.185 of this chapter.
	Part 121	
§ 121.15	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 121.207	§ 91.41	§ 91.317.
§ 121.579(b)(1)	§ 91.105 of this chapter	§ 91.155 of this chapter.
§ 121.579(b)(2)	§ 91.105 of this chapter	§ 91.155 of this chapter.
§ 121.649(c)	§ 91.105 of this chapter	§ 91.155 of this chapter.
§ 121.657(a)	§ 91.79	§ 91.119.
§ 121.667(b)	§ 91.83	§§ 91.153 and 91.169.
	Part 123	
§ 123.20	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
	Part 125	
§ 125.23(b)	§ 91.1(c) of this chapter	§ 91.703(b) of this chapter.
§ 125.39	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 125.329(c)	§ 91.105 of this chapter	§ 91.155 of this chapter.
	Part 127	
§ 127.22	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 127.85	§ 91.41 of this chapter	§ 91.317 of this chapter.
	Part 133	
§ 133.14	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
	Part 135	
§ 135.3(b)	§ 91.1(c) of this chapter	§ 91.703(b) of this chapter.
§ 135.41	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 135.71	§ 91.169 of this chapter	§ 91.409 of this chapter.
§ 135.93(c)	§ 91.105 of this chapter	§ 91.155 of this chapter.
§ 135.211(a)(2)	§ 91.116(f) of this chapter	§ 91.175(f) of this chapter.
	Part 137	
§ 137.23	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 137.43(c)	§ 91.107(e) of this chapter	§ 91.157(e) of this chapter.
§ 137.53(c)(ii)	§ 91.217 of this chapter	§ 91.537 of this chapter.

Rule	Deletion	Substitution
	Part 141	
§ 141.18	§ 91.12(a) of this chapter	§ 91.19(a) of this chapter.
§ 141.41(a)(1)(iii)	§ 91.33 of this chapter	§ 91.205 of this chapter.
§ 141.41(a)(2)(iii)	§ 91.33 of this chapter	§ 91.205 of this chapter.

(Sections 307, 313(a), 402, 601, 602, 603, 902, 1110, and 1202 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1348, 1354(a), 1372, 1421, 1422, 1443, 1472, 1510, and 1522); Section 6(c), Department of Transportation Act (49 U.S.C. 1655(c))

Note.—The reporting and recordkeeping requirements contained in this notice have been approved by the Office of Management and Budget (or the Bureau of the Budget, its predecessor agency).

It has been determined under the criteria of the Regulatory Flexibility Act that this proposed rule will not have a significant economic impact on a substantial number of small entities. This statement is based solely on industry comment as it pertains to this study. As important assumptions are formulated on the direct impacts of this NPRM on specified programs, dollar values may be assigned and levels of impact may be determined with some degree of accuracy.

Note.—The FAA has determined that this document is not considered major under Executive Order 12291, or significant under Department of Transportation Regulatory Policies and Procedures (44 FR 110134; February 26, 1979). Under the provisions of Executive Order 12291, its implementation will not have a major economic affect on consumers, industries, Federal, State, and local government agencies, or geographic regions. There would be no significant affects on competition, employment, investment, productivity, innovations, or on the ability of U.S.-based enterprises to compete with foreign-based enterprises and domestic or import markets. The total projected cost of this rule may be found in the draft regulatory evaluation contained in the public docket. A copy of the evaluation may be obtained by contacting an individual named in the "FOR FURTHER INFORMATION CONTACT" paragraph.

Issued in Washington, D.C., on July 27, 1981.

J. Lynn Helms,

Administrator.

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